OCTOBER 24, 1936

Railway Age

Founded in 1856

McCARTNEY LIBRARY
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TIMKEN TAPERED ROLLER BEARINGS

THE PACE IS HOT.. BUT THE BEARINGS KEEP COOL

Fifty miles an hour was a good average speed for railroad trains a few years ago. Sustained speeds of eighty, ninety, a hundred miles an hour and even higher are becoming quite common today.

Streamlining gets a lot of the credit—and rightly so—but the major share must go to the roller bearings with which, without a single exception, all modern high-speed trains are equipped.

Even in the old days, at speeds ranging from fifty to seventy miles an hour, hot boxes were the cause of more train delays and detentions than any other factor.

What chance would friction bearings have under the Burlington "Zephyrs", the Union Pacific "City of San Francisco", the Illinois Central "Green Diamond", the New Haven "Comet", the Milwaukee "Hiawatha", the New York Central "Mercury"—and many others!

These famous trains pursue their swift daily courses on Timken Bearings—unhampered by lubrication troubles, hot boxes and attendant evils. If you want to keep up with the times you must have roller bearings in your trains—as well as air conditioning, improved seating and other modern features.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

"Mercury", New York Central Lines—latest of the modern Timken-equipped high speeders.

Modern Searchlight Type of Signal on The

CHICAGO *and* NORTH WESTERN RAILWAY

The Chicago & North Western Railway has recently installed color light and searchlight type signals on its Milwaukee Division. Where new locations were built, Okonite Parkway Cable replaced the trunking system and Okojute track connections were installed.

Okonite Parkway Cables again prove their superiority and economy over trunking. Okonite Parkway Cables are buried directly in the ground where they remain, undisturbed and safe.

OKONITE

THE OKONITE COMPANY

Founded 1878

and

HAZARD INSULATED WIRE WORKS DIVISION

OKONITE-CALLENDER

THE OKONITE-CALLENDER CABLE COMPANY, INC.

EXECUTIVE OFFICE: PASSAIC, N. J.

New York, Philadelphia, Los Angeles, Boston, Pittsburgh, Seattle, Buffalo, Chicago, Washington, Dallas, Detroit, San Francisco, Atlanta

Factories: Passaic, N. J., Wilkes-Barre, Pa., Paterson, N. J.

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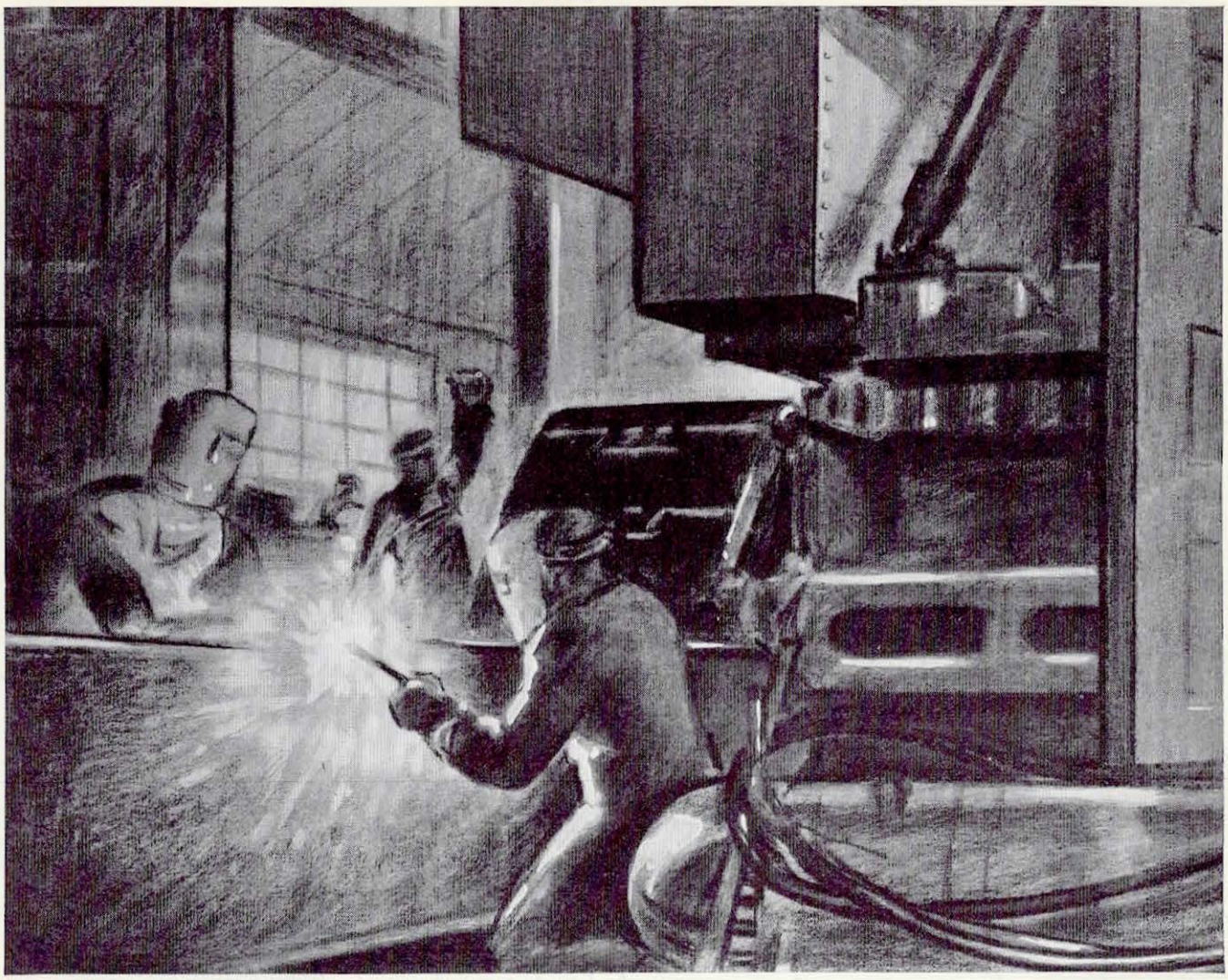


Paring Useless Tons from Construction Equipment with INLAND Hi-Steel

The use of Inland Hi-Steel (High in Strength, High in Corrosion Resistance) cuts dead weight from 25% to 50% without reducing the strength of the structure.

This new, high strength alloy steel has a minimum yield point of 55,000 to 60,000 lbs.—approximately twice the yield strength of ordinary structural steel—with a minimum tensile strength of 70,000 lbs. This steel can be welded and fabricated readily, and is remarkably uniform in physical properties.

The alloys used in Hi-Steel make it resist corrosion several times longer than Carbon Steel.

The long life of Hi-Steel and the lower tonnage required make it an economical material—both in manufacturing and in operation—both for builder and customer.

It offers tremendous opportunities for product improvement. Ask for an Inland Metallurgist to help you achieve them and write for Bulletin No. 10.

SHEETS • STRIP • TIN PLATE • BARS • PLATES • STRUCTURALS • PILING • BILLETS • RAILS • TRACK ACCESSORIES

INLAND STEEL CO.

General Offices: 38 South Dearborn Street, Chicago, Illinois

G-R-S CAB SIGNALS GIVE

Confidence may well be termed the keynote of train operation by cab signal indication because:

1. They give the engineman at all times, directly in front of his eyes, an instantaneous notification of a change in track and block conditions.

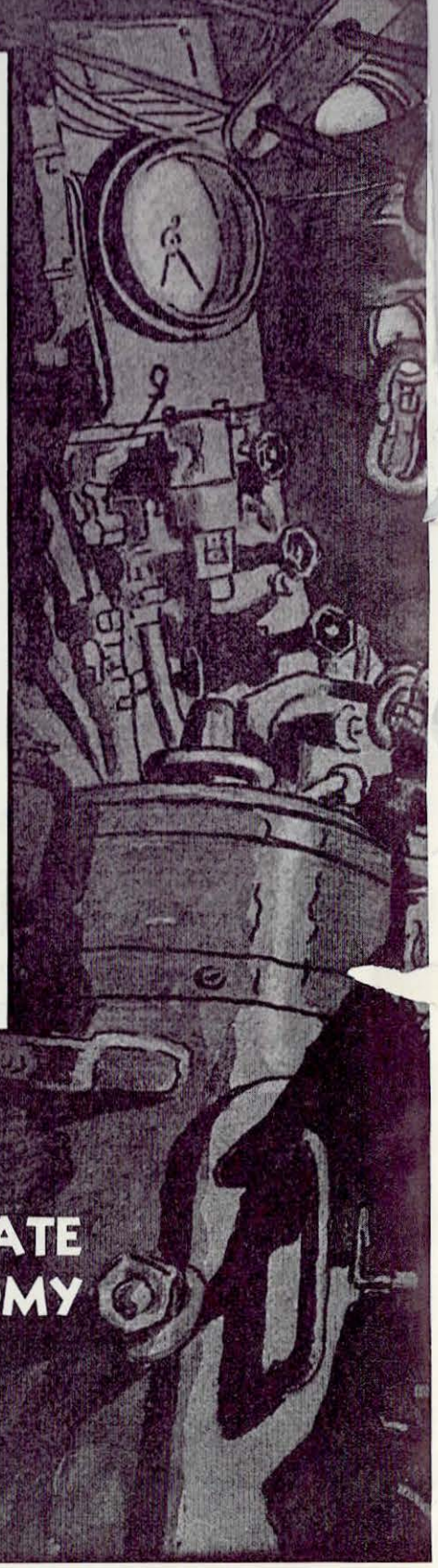
2. In fog or thick weather, they eliminate mental strain and make it unnecessary to reduce operating speed on account of poor visibility.

3. They eliminate from the mind of the engineman any doubt or uncertainty of the indication of the last wayside signal passed.

G-R-S Cab signals not only afford protection, but effect economical operation of the division by reducing delays, maintaining schedules, increasing track capacity and lowering train-mile costs.

We make studies without obligation. Why not consult our nearest office?

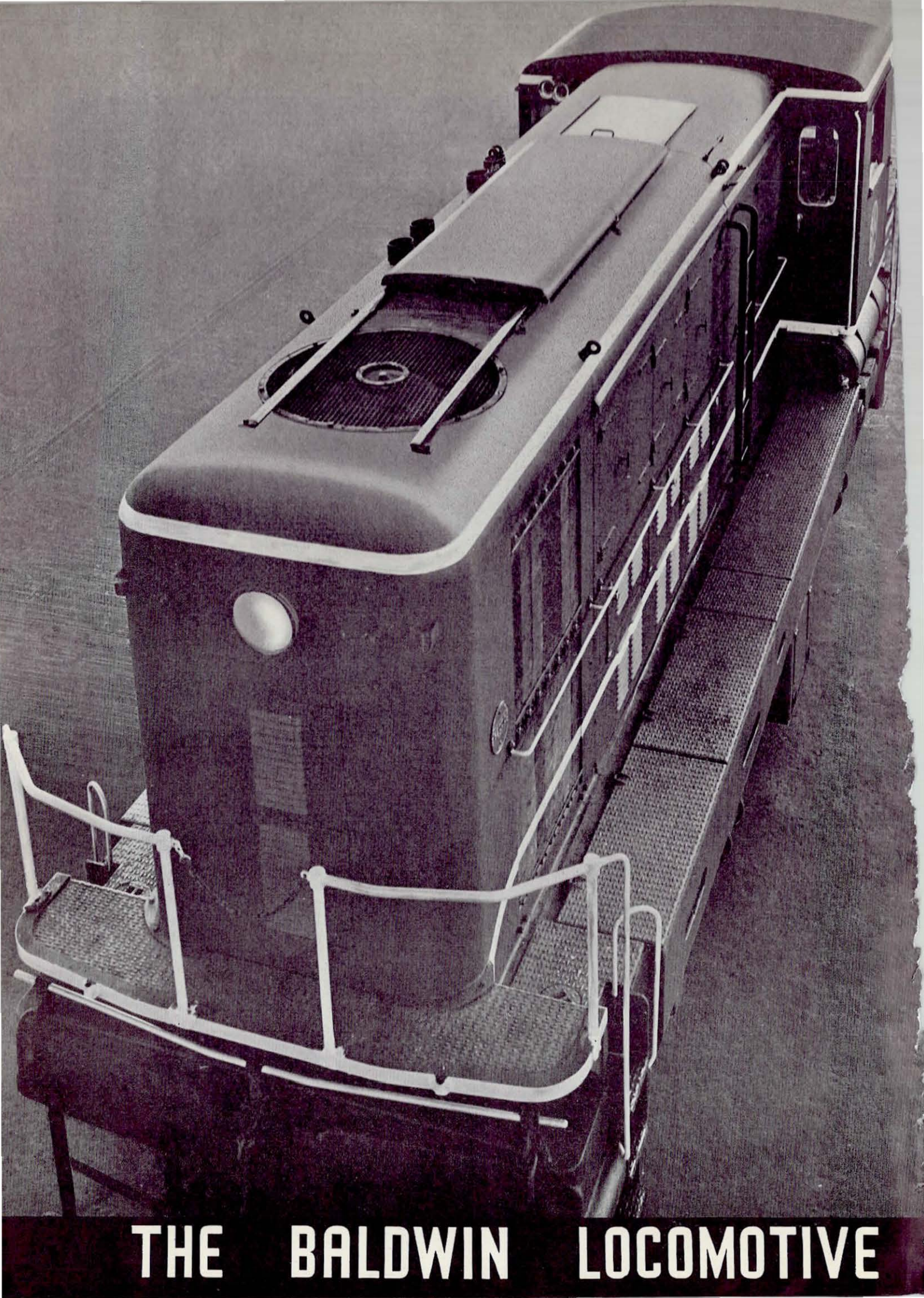
A-1352



CAB SIGNALS ARE THE ULTIMATE SIGNALS for SAFETY and ECONOMY

CONFIDENCE TO ENGINEMEN

GENERAL RAILWAY SIGNAL COMPANY
ROCHESTER, N. Y.



THE BALDWIN LOCOMOTIVE

BALDWIN PRESENTS A NEW SLANT ON DIESEL SWITCHING POWER

On the opposite page is pictured the BALDWIN standard design 660 horsepower diesel electric locomotive for switching purposes, powered with a DE LAVERGNE "VO" 6 cylinder 4 cycle solid injection cold starting diesel engine.

The mounting of the main auxiliary generators, engine, radiator, cooling fan and traction motor blower on a common sub-base;

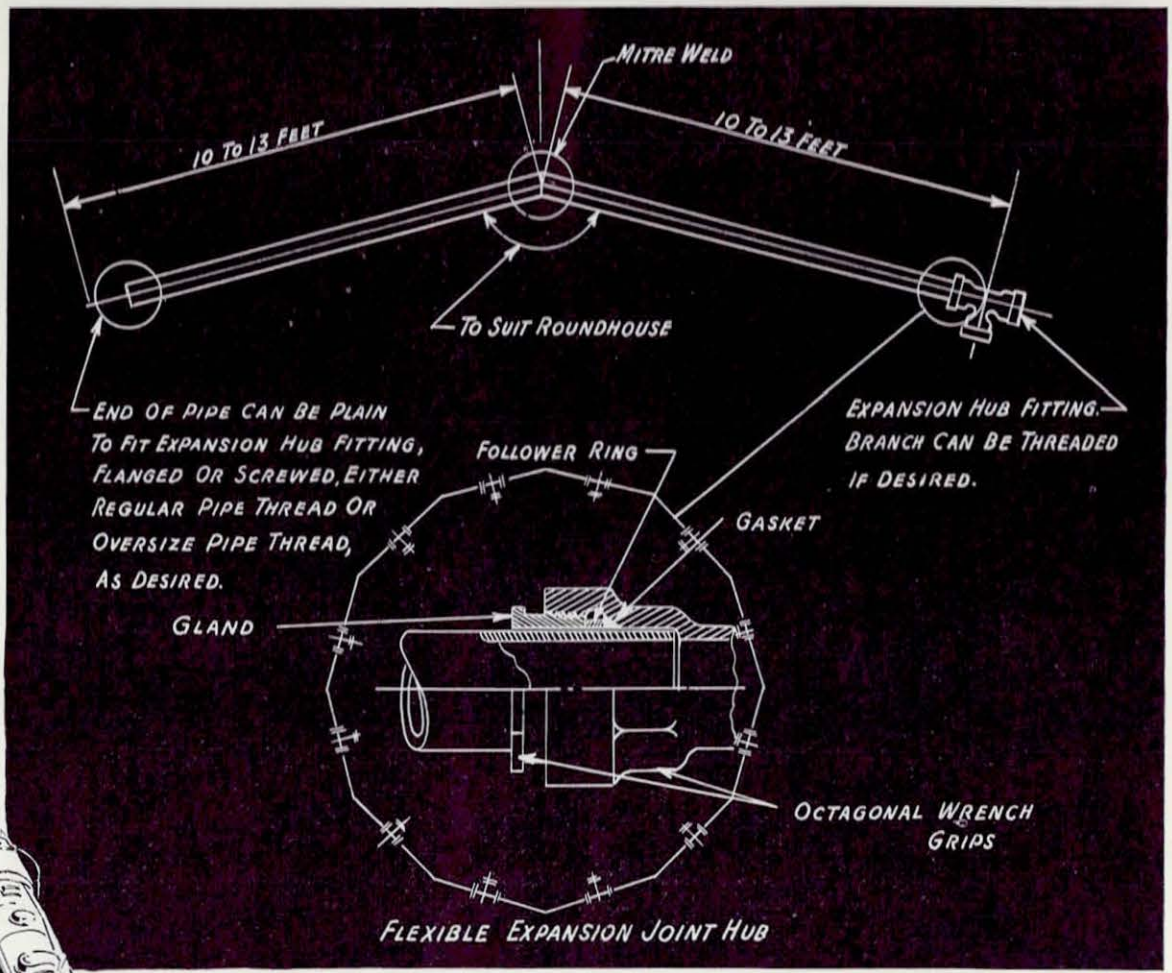
A truck design which permits dropping a pair of wheels without removing the traction motor;

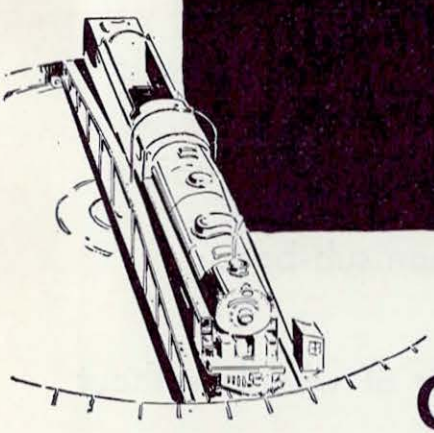
The concentration of all electrical equipment of the main power circuits in an equipment box underneath the center of the locomotive;

Electrical equipment which adjusts the flow of power to the traction motors to suit the conditions of changing loads

are outstanding features in keeping with BALDWIN traditions of simplicity, ruggedness and reliability.

WORKS • • • PHILADELPHIA


MITRE WELD
10 TO 13 FEET
10 TO 13 FEET
TO SUIT ROUNDHOUSE
END OF PIPE CAN BE PLAIN TO FIT EXPANSION HUB FITTING, FLANGED OR SCREWED, EITHER REGULAR PIPE THREAD OR OVERSIZE PIPE THREAD, AS DESIRED.
FOLLOWER RING
GASKET
EXPANSION HUB FITTING. BRANCH CAN BE THREADED IF DESIRED.
GLAND
OCTAGONAL WRENCH GRIPS
FLEXIBLE EXPANSION JOINT HUB



CORROSION RESISTANT PIPE

for Roundhouses

The above drawing illustrates the method by which Walworth Hi-Test Cast Iron Pipe is installed in roundhouses. The pipe is made in sizes 1½" to 8" inclusive, has the wall thickness of Extra Heavy Steel Pipe, and can be cut and threaded with standard pipe cutting and threading tools. We will be pleased to supply booklet giving further details on request. Address:

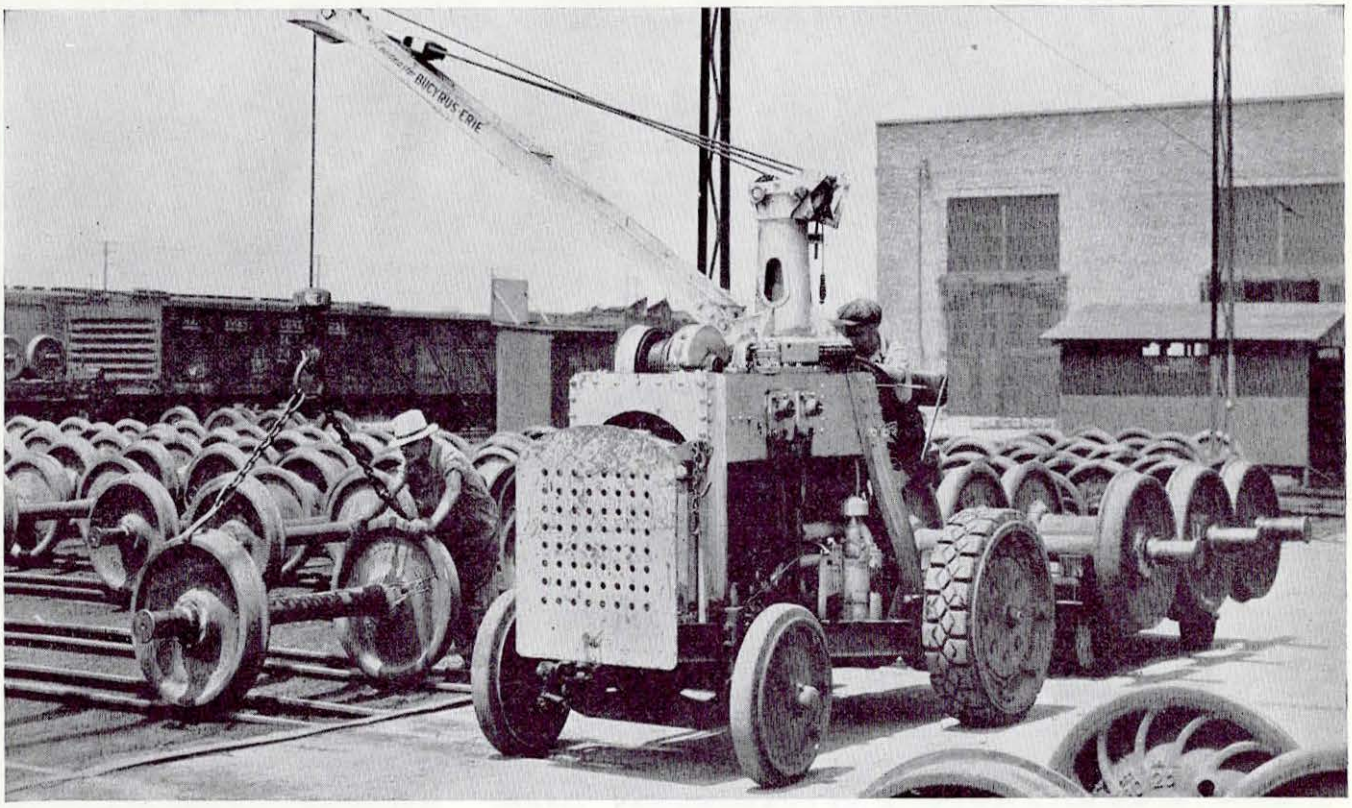
WALWORTH

VALVES FITTINGS and TOOLS
Backed by 94 Years' Service

WALWORTH COMPANY
RAILROAD DIVISION
60 EAST 42nd STREET, NEW YORK CITY

WALWORTH COMPANY
RAILROAD DIVISION
2627 WEST 15th STREET, CHICAGO, ILLINOIS

Make Use of the Industrial Experience of
INTERNATIONAL HARVESTER
When There's a Power Problem to Be Solved



Above: An International Industrial Tractor equipped with crane and front bumper on one of the many jobs assigned to it in this car shop.

●

The International Harvester line of industrial power includes wheel-type tractors, TracTracTors, stationary power units from 12 h. p. to more than 100 h. p. and 1½ to 5 h. p. engines for light-duty service.

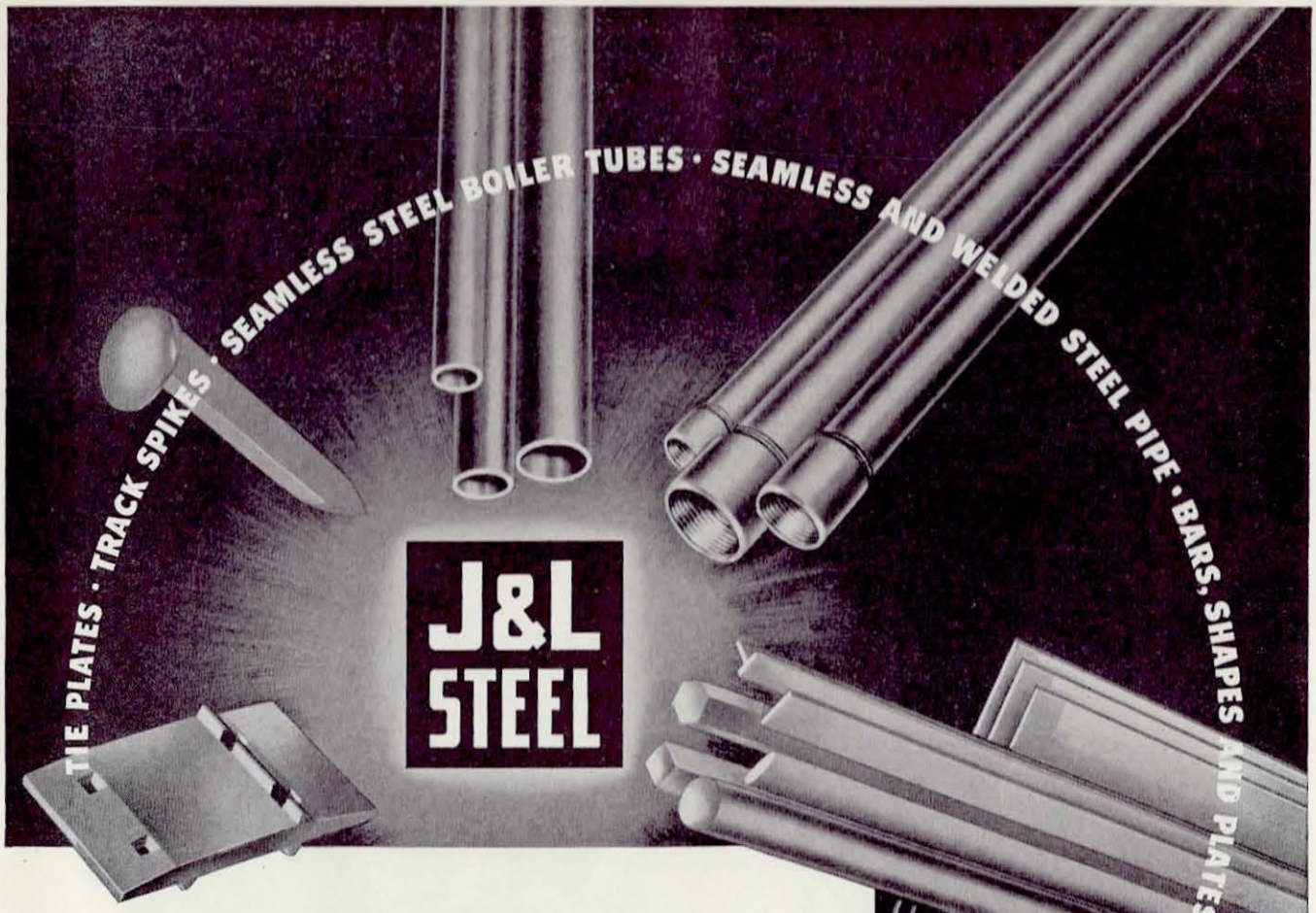
YOUR most reliable guide when you buy industrial tractors and power units is the opinion of users as to *International against the field.* Trust the men who have put this equipment through its paces to give you the real lowdown. Then you will have a good idea of what International Power can do on your jobs. No matter how tough the work, if it's in International's power range, you can expect the utmost in results. And, good as International performance is, it becomes all the better when the cost sheets are figured and you find out about economy.

If your work calls for powerful crawler or wheel tractors, small tractors for cramped areas, fixed power units, or small engines—call on a branch or authorized industrial dealer in the International Harvester sales-service organization.

Vast numbers of successful installations of International Tractors and Power Units, all over the land, are your guarantee that this Company will give you the soundest, most profitable answer to your own power problem. Cash in on International *Experience.* Specific information will be sent by mail on request.

INTERNATIONAL HARVESTER COMPANY
(INCORPORATED)
606 So. Michigan Ave. Chicago, Illinois

INTERNATIONAL HARVESTER



You get Uniform High Quality and Dependable Performance with J & L Steel Products

The wide variety of J & L steel products and their uniform high quality offer railroads an opportunity to save time and money by concentrating many of their purchases with one single reliable organization.

The dependable high quality of J & L steel products for railroad use is the result of two principal factors: first, the use of only the finest steel, and second, the strict metallurgical control exercised by Jones & Laughlin over every process of manufacture from iron ore to finished product.

This painstaking control of quality, involving a rigid system of tests and inspections, is complete assurance that every J & L steel product will measure up to Jones & Laughlin's traditionally high standard of quality.

Look to J & L for your steel requirements. You will be sure of uniform high quality and dependable performance.

JAL-TEN
A NEW HIGH TENSILE STEEL FOR CAR CONSTRUCTION

OTHER J & L STEEL PRODUCTS FOR RAILROADS

Car Shapes and Plates . . . Wire Products including Galvanized Dating Nails and Right-of-Way Fence . . . Copper Steel Pipe, Black and Galvanized . . . Structural Shapes, including Lightweight Channels and Junior Beams . . . Flange Steel Plates . . . Firebox Steel . . . Fabricated Structural Work . . . Bars for Concrete Reinforcement . . . Steel Piling . . . Cold Finished Steel . . . Pig Iron

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Houston Los Angeles Memphis Milwaukee Minneapolis New Orleans New York Philadelphia Pittsburgh Seattle St. Louis San Francisco Tulsa
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* Operated by National Bridge Works Division of Jones & Laughlin Steel Service, Inc.
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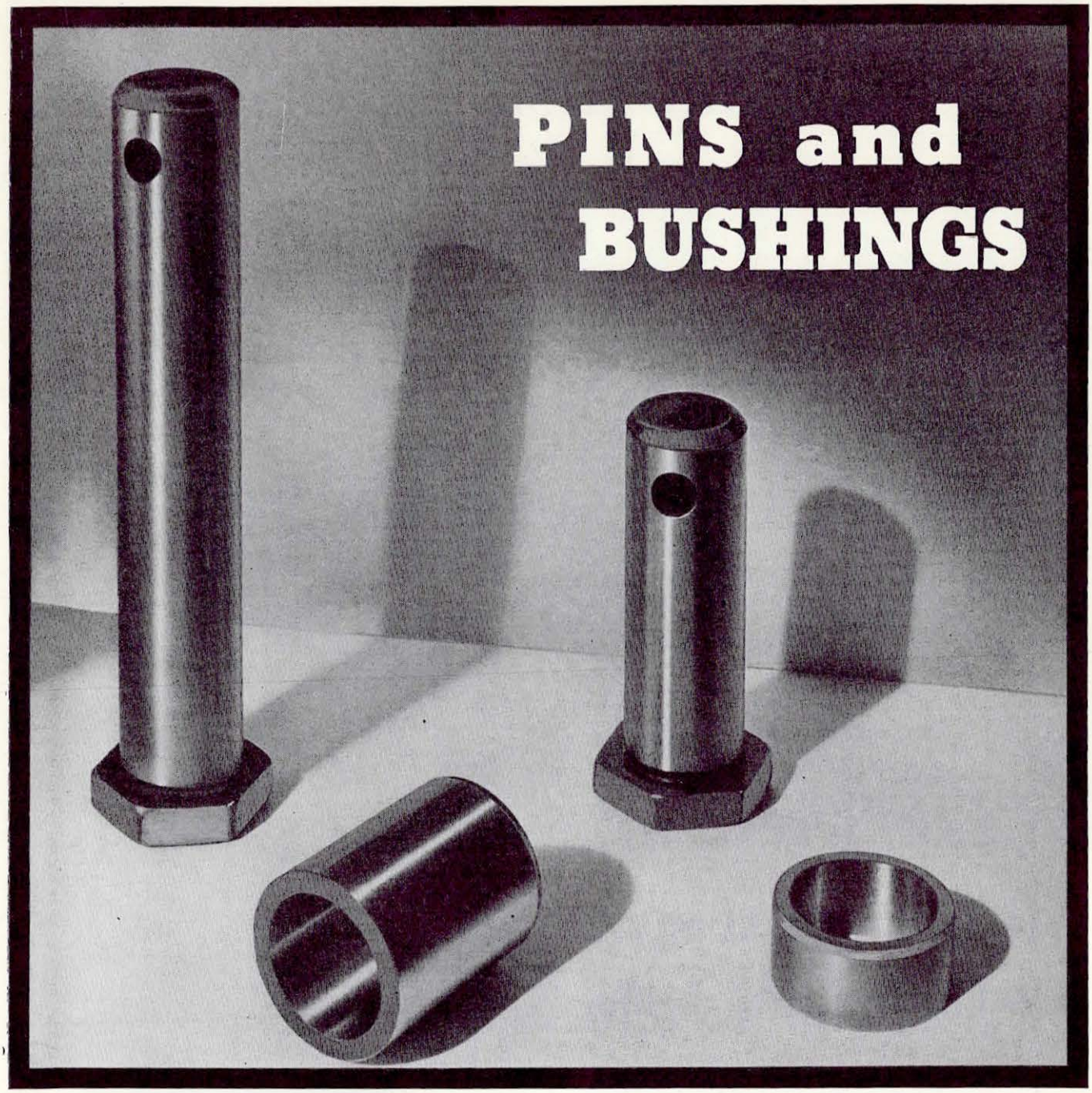
Fourth Largest Steel Producer in the U.S.



For all wearing positions on railway passenger equipment and locomotives, American Steel Foundries case hardened and ground pins and bushings, finished to close tolerances, are manufactured in a great variety of shapes and sizes.

They are held to a uniform depth and hardness of case and a refined ductile core structure of maximum strength.

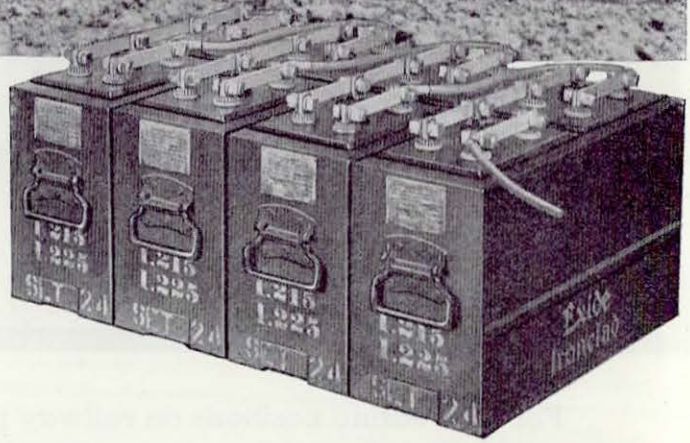
They surpass all ordinary commercial demands for exceptionally fine finish.

The use of American Steel Foundries pins and bushings in all wearing positions is a safeguard against high maintenance costs.

AMERICAN STEEL FOUNDRIES

NEW YORK CHICAGO ST. LOUIS

Clean, fresh October air...



is what passengers want the year 'round

PASSENGERS expect a great deal from passenger-car air-conditioning — they have been educated to do so. Your own service must be unfailing in order to meet the expected standards of comfort.

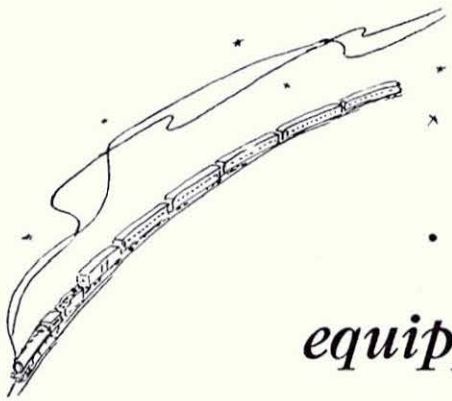
Not only that—operation must be so economical that the service pays a profit on the increased passenger traffic it attracts.

The use of Exide-Ironclad Batteries goes far to make your air-conditioning service meet both these important requirements. Exide-Ironclads have proved their ability to handle with ease the extra air-conditioning load — and to do so with the utmost economy.

Not only do these batteries have tremendous reserve power to meet exceptional demands, but they maintain a good voltage during long periods of discharge. In ease and low cost of maintenance they are outstanding. Their extreme ruggedness assures long, trouble-free life. That is why Exide-Ironclads improve air-conditioning service and cut costs.

Exide
IRONCLAD
BATTERIES
With Exide **MIPOR** Separators
"MIPOR," Reg. U. S. Pat. Off.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

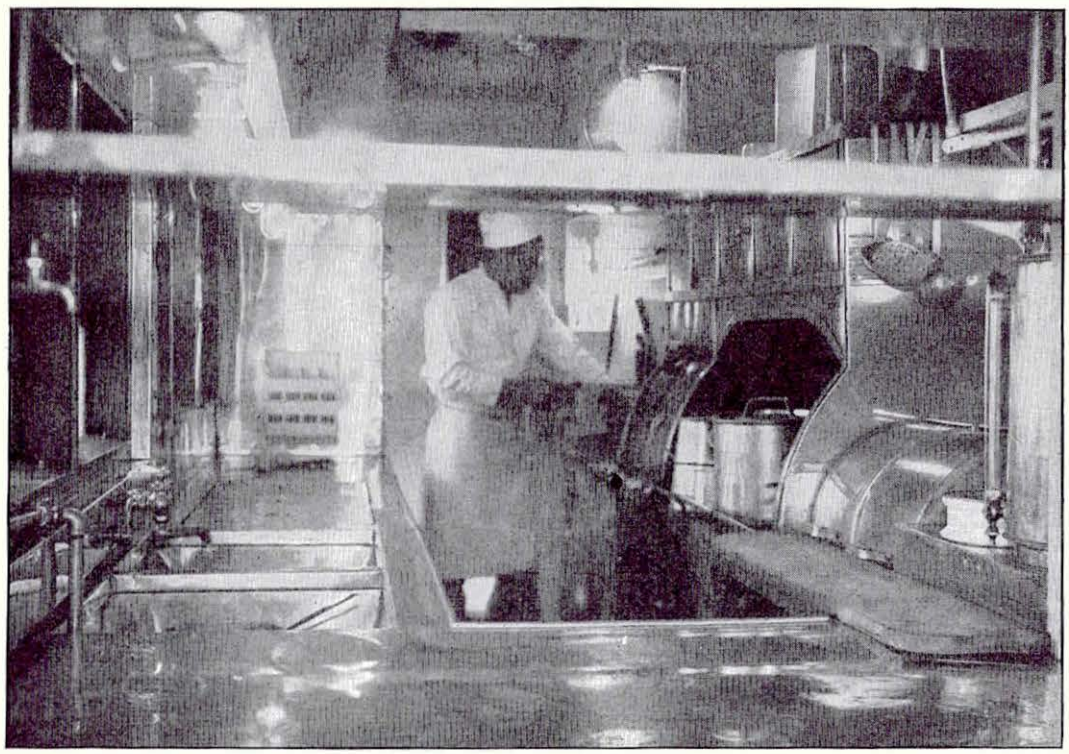


ALL'S WELL

. . . the Chef's in his Galley

equipped with "Armco Stainless"

SHEET METAL
•
PLATES
•
FOR EVERY
RAILROAD NEED



Yes, sir! All is well in the working end of your dining cars when they're equipped with Armco Stainless . . . .

Armco Stainless Steel sinks, workboards, refrigerator doors, cupboards, compartments, and all the rest. Every inch of surface is spotless, nontarnishing, sanitary, and surprisingly easy to clean and keep clean.

This is something to consider, too: as long as your diners are in service, there will never be any replacements when the parts that food touches are made of Armco Stainless. You're assured of sanitary, trouble-free service from first run to last.

There is a correct grade of Armco Stainless Steel sheets, strip and plate for practically every railroad use. The six painstakingly finished surfaces are well adapted to varying requirements. And remember, Armco Stainless Steels are readily sheared, punched, formed, soldered and welded. Your mechanical department can do anything with these bright, modern metals that they can do with the older metals—and more.

We shall be glad to work with you in the successful application of "Armco Stainless." Just inform the nearest office of your needs.

ARMCO RAILROAD SALES CO.
Subsidiary of The American Rolling Mill Co.
EXECUTIVE OFFICES: MIDDLETOWN, OHIO
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ST. LOUIS • SAN FRANCISCO

ARMCO

ARMCO STAINLESS STEELS

SAFE Right-of-Way is *fenced* Right-of-Way

THE modern tendency toward increasing speed requires, more than ever before, an added measure of safety. Stock claims, injuries, and loss of life can be reduced and eliminated by proper fencing of the right-of-way.

The most economical right-of-way protection is offered by American Railroad Fence and Banner Steel Posts. The use of National Expanding Anchor End and Corner Posts (dirt set) will give you sturdy, economical, long-lived fencing which meets the specifications of the American Railway Engineering Association.

Further protection against costly claims will result from the use of strong fence properly placed in yards; around shops and buildings.

American Railroad Fence is made from rust resisting Copper Bearing Steel with an even coating of galvanizing as a full measure of protection against time and weather. The fence is made stronger and longer lasting by the famous American Hinge Joint which has the flexibility necessary to resist the weight and pressure of live stock.

We will be glad to talk over your fencing problems with you and to discuss further how costly claims can be reduced. Further information will be mailed to you on request.

AMERICAN RAILROAD FENCE *and* BANNER STEEL POSTS

AMERICAN STEEL & WIRE COMPANY, *Chicago - New York*
COLUMBIA STEEL COMPANY, *San Francisco*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*
United States Steel Products Company, New York, *Export Distributors*

UNITED STATES STEEL

BOTH are Velmo...

they fit the decorator's schemes on the Boston and Maine and Maine Central Railroads.

THESE reconditioned cars aptly demonstrate Velmo's versatility. This modern velvet mohair fits right in with the decorator's varied plans for color, texture, design; and it sturdily meets the railroad's needs for durability, cleanliness, comfort!

Velmo is an *uncommon* carrier...years of hard service prove that it is literally "*good to the last mile!*"

VELMO

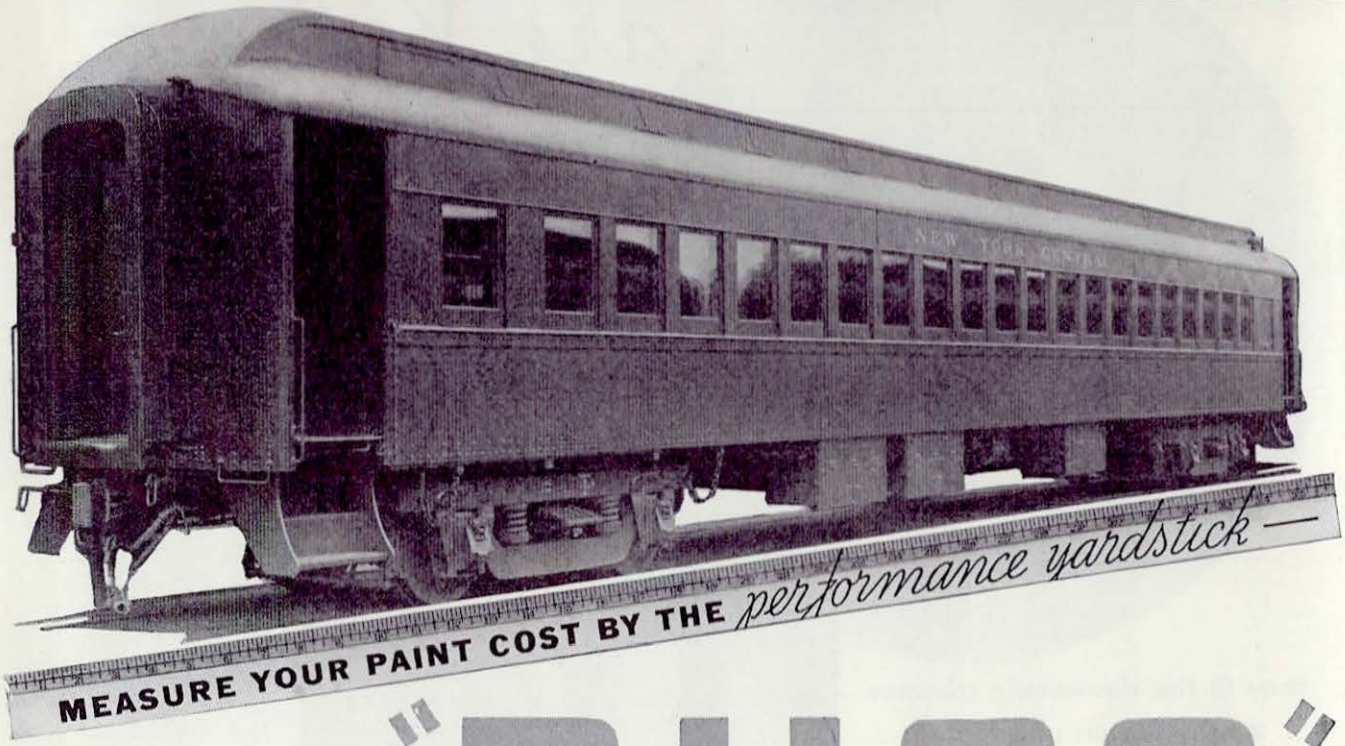
MOHAIR VELVET

A GOODALL-SANFORD PRODUCT

L. C. CHASE & COMPANY, INC.
selling division of Goodall-Sanford
295 Fifth Avenue, New York
Boston • Chicago • Detroit • San Francisco

Remarkable performance

OBTAINED BY NEW YORK CENTRAL



with "DUCO"

HERE'S an example of what we mean when we say, "Measure your paint cost by the performance yardstick":

Coach No. 805 of the New York Central Railroad was finished in DUCO on July 28, 1925. In July, 1935, this coach was taken into the Beech Grove shop, scrubbed up, touched up, re-lacquered and re-gilded at a material cost of $37.69 and a labor cost of $26.70, or a total cost of only $64.39. This includes the outside of the body and inside and outside of vestibules.

Think of it! *Only $64.39 to repair a ten-year-old paint film, and still no need for a major refinishing operation!*

Du Pont Railway Finishes have made it possible for many railroads to lower their finishing and maintenance costs. Unprecedented standards of durable protection and lasting good appearance have been established by DUCO.

The use of DUCO not only lengthens shopping schedules, but also brings additional savings in the paint shop. Easy application, quick drying, and fewer operations combine to speed up shop production. This means less expense for both labor and materials.

Measure your paint costs by the performance yardstick and not by the cost per gallon. Let our representative tell you how du Pont Railway Finishes can save you money. E. I. du Pont de Nemours & Co., Inc., Finishes Division, Wilmington, Delaware.

DU PONT
REG. U. S. PAT. OFF.

RAILWAY FINISHES

Buildings *Last Longer*

when you use Copper-Steel Sheets

ACCURATE and convincing tests have definitely proven that when copper is properly alloyed with steel, the resulting metal successfully retards atmospheric corrosion. These tests, made under varying conditions by the American Society for Testing Materials, demonstrate that where corrosion resistance is desired at a nominal cost—Copper-Steel will serve the purpose.

USS Copper-Steel Sheets are made to resist the test of time and the severest weather conditions. They are uniformly made from the finest of materials by skilled workmen. In all types of construction users invariably find them to be of the finest quality. For increased service and rust resistance in roofing and siding, tank sheets, culvert and flume sheets, specify USS Copper-Steel.

U·S·S COPPER-STEEL SHEETS

CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*
United States Steel Products Company, New York, *Export Distributors*

UNITED STATES STEEL

The witchery and shaky forecasts of fortune tellers are outlawed in railroading. Train movements are accurately forecast in advance, not by fortune tellers, but by dispatchers and men of scientific schooling. There is no place for fortune telling in the electrical department, either. Although it was seldom possible to predict the life of an ordinary battery, now with an Edison Battery performance from car-shopping to car-shopping can be anticipated with almost mathematical certainty... and true railroad accuracy.

Engineers can tell you with confidence just how long an Edison Battery will continue to *perform* a given service. This, and the Edison's 2 to 5 times longer life, are due greatly to Thomas Edison's exclusive Steel-Alkaline principle. And you need not fear that power will "wink out" unexpectedly with an Edison Battery... it is not subject to unexpected failure.

EDISON STORAGE BATTERY

DIVISION OF THOMAS A. EDISON, INC., WEST ORANGE, NEW JERSEY

25 Years "workin' on the railroad" proves

NATIONAL COPPER-STEEL PIPE

Lasts 2 to 3 times longer

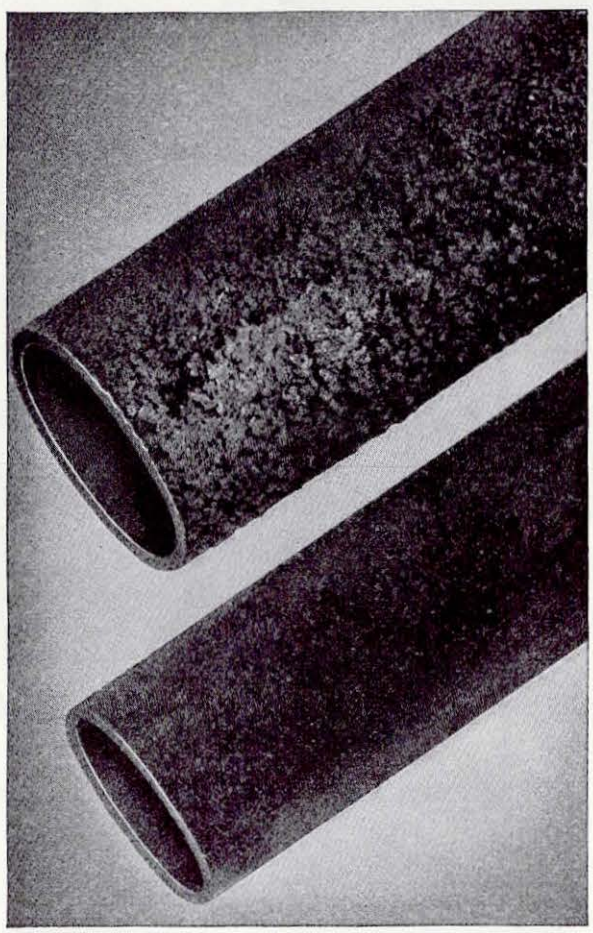
. . . BECAUSE IT RESISTS ATMOSPHERIC CORROSION

RAILROAD men know all too well the annual toll they pay to the ravages of corrosion. For rust is a natural enemy of railroad equipment. On car and locomotive piping, alternate wetting and drying take place constantly. The metal rusts. The pipe weakens. Replacement is necessary. Another costly, unnecessary item goes on the maintenance sheet.

Rust-resisting NATIONAL Copper-Steel Pipe provides a simple, effective and economical protection against this expense. It costs only a little more than ordinary pipe. It lasts two to three times longer. The many years extra life it assures is a fact, demonstrated by thousands of actual on-the-job tests and installations in locomotive and train lines on leading roads.

Use NATIONAL Copper-Steel Pipe wherever atmospheric corrosion exists, where other pipe is short-lived. Its durability is unsurpassed by any ferrous material within a justifiable price range.

And don't overlook this important advantage — NATIONAL Copper-Steel Pipe in addition to its unusual corrosion resistance has the strength, uniformity and ductility for which *all* NATIONAL Pipe is noted. It not only lasts long — it installs easily.



NON-COPPER PIPE

showing effect of atmospheric corrosion (after seven years) in moist mill atmosphere.

COPPER-BEARING PIPE

Showing little or no effect after years of service in the same corrosive atmosphere.

LOOK FOR THE GREEN COLOR!

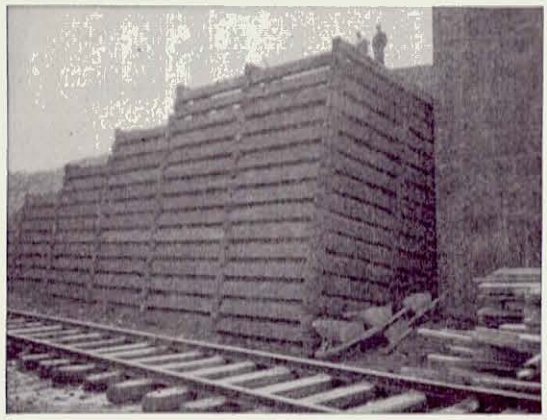
National Copper-Steel Pipe is marked as follows: Black Pipe—Smaller sizes colored green. Larger sizes, two green stripes running lengthwise. Galvanized Pipe—All sizes, two green stripes running lengthwise.

NATIONAL TUBE COMPANY

PITTSBURGH, PA.

Columbia Steel Company, San Francisco, *Pacific Coast Distributors* · United States Steel Products Company, New York, *Export Distributors*

UNITED STATES STEEL



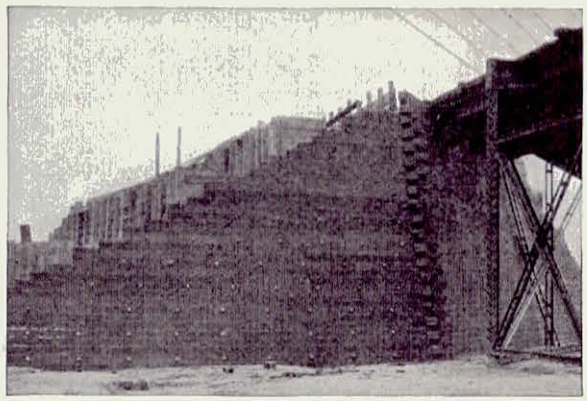
creosoted WOOD CRIBBING

DEPENDABLE

PERMANENT

LOWER FIRST COST

NO MAINTENANCE



RETAINING WALLS

Cribbing and Retaining Walls, built of Creosoted Timbers, offer a type of construction that is low in initial cost, with no maintenance expense over the material life of the structure. Service Records show that Creosoted Wood in place gives long and satisfactory service life, and to the time when changed conditions require extensions or alterations, in which event Creosoted Wood may be salvaged for use again. The yearly increase in the use of "Wood Preserving" Creosoted Timbers for Cribbing and Retaining Walls is indicative of the Dependable service which they provide.

THE WOOD PRESERVING CORPORATION

KOPPERS BUILDING . . . PITTSBURGH, PENNA.

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Chicago, Ill.
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Memphis, Tenn.

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CENTURY DIVISION PITTSBURGH, PA.

CAROLINA WOOD PRESERVING CO. CHARLESTON, S. C.

NATIONAL LUMBER & CREOSOTING CO. TEXARKANA, ARK-TEX.

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RAILWAY AGE

Why Has Recovery Occurred?

Discussion of business by politicians usually is misleading. It has never been more misleading than during the present national political campaign. There has been a substantial recovery since the bottom of the depression was reached. Governor Landon implies that it is largely fictitious. President Roosevelt claims it has been entirely due to policies of his administration, including improvement in railway results. As a business paper the *Railway Age* disagrees with both of them. It believes the recovery that has occurred is real and will continue unless interrupted by excessive government spending and inflation. It believes also that it has demonstrably occurred in spite of the principal policies of the Roosevelt administration and would have been greater excepting for these policies. The question of its causes is of vital importance. For a majority of the voters at the approaching election to attribute it to false causes might result in permanently fastening government policies upon business that would permanently prevent the prosperity for all classes that they might otherwise enjoy.

Let us then look at the actual record. The President assumes in his speeches that the decline of business continued without interruption until it reached bottom in March, 1933, when he was inaugurated. This assumption is not true, distorts the entire history of recovery to the present time and makes rational consideration of the *causes* of recovery impossible. Such consideration of the *causes* of recovery must *begin with the beginning of recovery.*

First Period of Recovery—1932

There have been three periods of recovery. The first was during the last four months of 1932; the second during the four months April-July, inclusive, 1933; the third since July, 1935. Demonstration that there have been these three distinct periods, and that all the recovery to date has occurred during them, demolishes the President's claim that such recovery as has occurred has been due to the economic policies of his administration.

For reasons repeatedly stated in these columns, railroad freight loadings are the only available single measure of the production and distribution of all commodities, and, therefore, the best measure of the total volume of all kinds of business done in the country during any given period, as well as of railroad business. In July and August, 1932, freight loadings were only 48 per cent as large as they averaged in these months in the five years 1925-1929, inclusive. This was when the real bottom of the depression was reached. During the next four months freight loadings increased until in December, 1932, they were 57 per cent as large as in 1925-1929. *This was one of the largest non-seasonal increases in history.* It could not have been caused by anything excepting an upturn in general business; and it resulted in an increase in railway net operating income unprecedented in any equal period. In the first eight months of 1932 net operating income was 50 per cent *less* than in the first eight months of 1931. In the last four months of 1932 it was actually *greater* than in the last four months of 1931.

Railway Age's Comment in First Period of Recovery

This beginning of recovery in the last one-third of 1932 is ignored by New Deal propagandists now. But it did not pass unnoticed at the time. The *Railway Age* made the following comments upon it: September 17, 1932: "The statistics of freight car loadings for recent weeks indicate that a real improvement in general business has begun." October 29, 1932: "The increase in car loadings between June and October, 1932, which was *seven times* as great as between the same months of 1930 and 1931, *is the most conclusive answer that could be given to the question whether business at last has begun substantially to improve.*" January 14, 1933: "No better evidence of the change in the trend of general business that began last summer could be afforded

than the facts regarding railway freight traffic and earnings in the first eight months and in the last four months of 1932." February 4, 1933: "Readjustments already made, and increasing confidence and courage among business men and the public generally, explain the improvement that already has occurred."

Why do New Deal propagandists unanimously and sedulously ignore the upturn in business that occurred in the last one-third of 1932? Obviously, because it began almost ten months before any of the New Deal legislation was passed by Congress. Effects do not precede their causes; and *recovery that began ten months before the New Deal began could not have been due to New Deal policies.*

What occurred after that? A sharp decline of business during the first quarter of 1933 that it is now plain to every real student of economics and business was due entirely to the banking crisis which culminated in March, 1933. What is equally plain now to every such student is that the importance of the banking crisis and its effects has been enormously exaggerated for political purposes. This is plain because the conditions it caused were so quickly and easily remedied—how quickly and easily are indicated by what was said in an editorial in the *Railway Age* of March 25, 1933, exactly three weeks after President Roosevelt was inaugurated.

In that editorial we said: "The government closed the banks to stop the drain upon them, and a large majority of banks have now been reopened under legislation enabling the government to restrict withdrawals which assures their continued solvency. * * * Increase of public confidence has been shown by innumerable public and private expressions and by advances in the security and commodity markets." This comment published in a business paper *at the time* is in striking contrast to the descriptions of the conditions that then existed given by New Deal propagandists *over three years afterward.*

Second Period of Recovery—1933

There followed immediately the second period of recovery. We are told now by New Deal orators and propagandists that in the months immediately following the banking crisis business was in such a frightful condition that there was danger of "revolution" and that it was necessary for the government to adopt the most heroic measures to save the nation from ruin. Such statements are demonstrably untrue, and we will now prove by indisputable facts that they are untrue. Most of these measures that it is claimed were necessary to prevent ruin and did prevent it were passed in June, 1933, and their actual application began in July. What was actually occurring in business at that time? *It was improving faster than it ever did before or since in any equal period in the history of the United States.*

We publish in a table herewith some most illuminating railway statistics for the months of May, June and July, in the years 1932, 1933, 1934, 1935 and 1936.

Railway Results, May, June and July

	1932	1933	Per Cent Incr. or Decr. 1933 compared with 1932	1934	Per Cent Incr. or Decr. 1934 compared with 1933	1935	Per Cent Incr. or Decr. 1935 compared with 1933	1936	Per Cent Incr. or Decr. 1936 compared with 1933
Total Car Loadings	6,475,561	7,567,831	+ 17.0	7,882,010	+ 4.1	7,591,010	+ 0.3	8,964,360	+18.5
Gross Earnings	$738,791,044	$827,275,134	+ 12.0	$840,786,676	+ 1.6	$836,234,350	+ 1.1	$1,001,401,974	+21.0
Operating Expenses	598,476,226	561,817,104	- 6.0	626,808,018	+11.5	643,590,734	+14.5	730,411,121	+12.2
Taxes	73,923,442	68,982,081	- 6.7	64,525,740	- 6.5	61,519,757	- 9.4	82,158,667	+19.0
Net Operating Income	36,200,019	164,483,326	+360.0	116,552,170	-29.0	100,381,156	-39.0	153,928,492	- 6.4

They will amaze those who believe the New Deal hokum being disseminated regarding the conditions and trend prevailing in business in this country in the months immediately following the banking crisis in 1933. They show that in May, June and July, 1933, when it is now represented the nation was traveling rapidly toward ruin, business had so far recovered from the effects of the banking crisis that freight loadings were *17 per cent larger than in the same months of 1932.* In other words, in the very months when, as is now represented, the country had to be saved from ruin by creating NRA, AAA and other alphabetical agencies and the making of huge appropriations for government spending, general business was at least 17 per cent better than a year before. Railway gross earnings showed an increase of 12 per cent over the corresponding months of 1932 *and railway net operating income an increase from $36,200,000 to almost $165,000,000, or 360 per cent.* If such facts show we were on the road to ruin during May, June, and July, 1933, it is a great pity that we were so soon detoured from it.

First Two Years of New Deal

What caused the sharp recovery during this period? *It could not have been due to New Deal policies because they were not yet in effect;* and, we repeat, effects do not precede their causes. It obviously was a resumption, after interruption by the banking crisis, of the recovery that began in the last one-third of 1932, *and due to the same causes.*

We now arrive at a period of two years almost throughout which practically all the principal New Deal policies actually were in effect. Bear in mind that in May, June and July, 1933, according to the New Dealers, the train of business, to use a simile employed in President Roosevelt's recent speech in

Chicago, was in the ditch and an unprecedented aggregation of master minds was engaged in drafting, passing and beginning to apply legislation absolutely necessary to get it back on the track. What, then, occurred in the first year during which these new policies asserted to have been essential to our economic salvation actually were tried? To answer this question accurately it is necessary to compare business in May, June and July, 1933, with business a year later in May, June and July, 1934. Freight loadings increased *only 4 per cent*, as compared with 17 per cent between these same months in 1932 and 1933, and railway gross earnings increased *less than 2 per cent* as compared with 12 per cent in the year before the New Deal began. But there had been plenty done to the railways. NRA had increased the prices they had to pay for materials and fuel. Owing to this and to a small increase in the number of their employees their operating expenses had increased 11½ per cent, with the result that *their net operating income had declined 29 per cent, or $48,000,000.*

So much for the first year of the New Deal. What was the situation in May, June and July, 1935, after its major policies had been in effect almost throughout two years? Freight loadings were then *only 3/10 of 1 per cent* larger than in May, June and July, 1933, when the master minds began saving the country from imminent ruin. President Roosevelt said in his speech at Chicago that his administration had caused the railways to make larger earnings. There was a small increase in their gross earnings between May, June and July, 1933 and 1935, but meantime their operating expenses increased 14½ per cent, or $82,000,000, and their *net operating income declined 39 per cent, or $64,100,000.* If the train of business was "in the ditch" in May, June and July, 1933, and this was "recovery," then the train would have made much more progress during the subsequent two years if it had been left in the ditch.

Third Period of Recovery

The facts given above demonstrate conclusively that there was no recovery between May, June and July, 1933, and 1935. We now arrive at the third period of recovery. The exact time when it began is easily identifiable. In July, 1935, freight loadings were only 55½ per cent of what they averaged in 1925-1929; were 9 per cent smaller than in July, 1933, *when the train of business was "in the ditch,"* and were relatively the smallest since May, 1933. The third period of recovery began in August, 1935, and had continued without interruption until the middle of October, 1936, when freight loadings reached 71 per cent of their 1925-1929 average. What caused this third period of recovery to begin? There had occurred one only great change affecting business. This was the destruction by a decision of the Supreme Court late in May, 1935, of NRA, the most important policy of the New Deal. If NRA had helped business, it would have declined after this decision. In his famous "horse and buggy" interview President Roosevelt definitely predicted that it would decline.

What, then, did occur? An increase between May, June and July, 1935 and 1936, of 18 per cent in freight loadings and of 20 per cent in railway gross earnings! Freight loadings in these months were also 18 per cent larger than in 1933—the first substantial increase in these months since 1933. But even this increase of railway gross earnings was not sufficient to restore railway net operating income to what it was in 1933 when the train was "in the ditch." Between May, June and July, 1933, and the same months of 1936 railway gross earnings increased 21 per cent, but operating expenses and taxes—including those for social security and retirements—increased 30 per cent. In consequence net operating income was still 6 per cent, or $10,600,000, less than in the same months of 1933 before the train of business had been pulled out of the ditch by the New Deal wrecking crew.

Suppose There Had Been No New Deal

In view of the foregoing facts what is it reasonable to believe would have occurred if there had been no New Deal? We have no light with which to guide our feet but the lamp of experience. We know it is indisputable history that the country did recover from the depressions following the panics of 1837, 1857, 1873 and 1893 without any New Deal. We know, because of the indisputable facts presented in this editorial, that *the only periods during which there has been any recovery from this depression, have been in the year before the principal New Deal policies were adopted and in the seventeen months since some of the most important of these policies began to be destroyed by court decisions.* Furthermore, if recovery had occurred as rapidly in proportion in the two years from July, 1933, to July, 1935, as it did in the year before the establishment of NRA and as it has since NRA was destroyed, the volume of general business and railroad freight loadings would now be as large as before the depression instead of being still 30 per cent smaller than they were then. If these facts do not prove that the New Deal was not needed to cause recovery, and that it has not caused it, but, on the whole, has hindered it, then we do not know what is necessary to a mathematical demonstration.

What, then, has caused the recovery that has occurred? It has been partly due to increase in the purchasing power of the farmers caused partly by AAA, but it has been mainly due to the same causes that have pulled the country out of all earlier depressions. The nation has thousands of business men and millions of farmers and other workers. To their efforts have been principally due the recovery that has been made—as was true in every past depression. And these millions must rely upon themselves, and not upon politicians, for full restoration of prosperity. Most politicians concern themselves with economic and business problems for their own political purposes only. Nothing could more strikingly illustrate this than the way most poli-

ticians are ignoring or distorting the facts about the causes of the present depression and of the recovery that has thus far been made in spite of most of them.

A Mechanical Division Convention in 1937

With railroad carloadings and net income at their present relatively high level and every prospect that improved earnings will continue well into 1937, more or less regardless of election results, it would apparently be a wise move for the Mechanical Division of the Association of American Railroads to begin making plans at once for a full membership convention next June, accompanied by an exhibition of the latest improvements in railway equipment and supplies.

It has been six years since such a convention was held and revolutionary new materials and devices adapted to railroad use have been developed in that time. Influential railway officers expressed themselves unofficially at the 1936 meeting as hoping that a well-attended convention and exhibition could be held in 1937, not only because of the many new developments which could be shown to railway officers of long experience, but because many younger men recently appointed to mechanical supervisory positions must also familiarize themselves thoroughly with the full possibilities of new materials and methods if the railroads are to meet successfully the many special problems now confronting them.

Two objections, primarily responsible for the failure to hold combined conventions and exhibitions in recent years, are the large cost involved and over-emphasis on the entertainment feature, which has led some of the higher railway officers to believe that conventions generally are little more than big sprees. The extent to which the latter objection may be valid is certainly an indictment of the ability of railway managements to send the right kind of men to conventions and it reflects on the good judgment of supply companies as well, since they must realize that their problem is primarily educational, and that, over a period of time, the only products which can be successfully sold to railroads are those which railroad men know where and how to use. The percentage of men who have abused convention privileges in the past is small and the responsibility for making it still smaller devolves about equally upon responsible officers of the railways and the supply companies.

Regarding convention expense, the cost of transportation is a small factor, for railroad members travel largely on passes. Hotel and other expenses, also, need not be high, and it would have to be a pretty poor convention or a poor man attending it not to justify his travel expenses many times over. Probably the largest single element of cost is that entailed by the exhibit, which in the end is admittedly paid for by the railroads. Immediate expenditures, however, are made by the supply companies who would hardly approve the cost if any better or cheaper way of explaining the merits and advantages of their products to such a large group of railroad men in a short period of time were available. Individual members of the Railway Supply Manufacturers' Association, which will sponsor the exhibit if and when held, are at present expressing themselves quite generally as favoring an exhibit in 1937, and many of them feel that it can be made almost a small university from an educational standpoint for those who wish to take advantage of it.

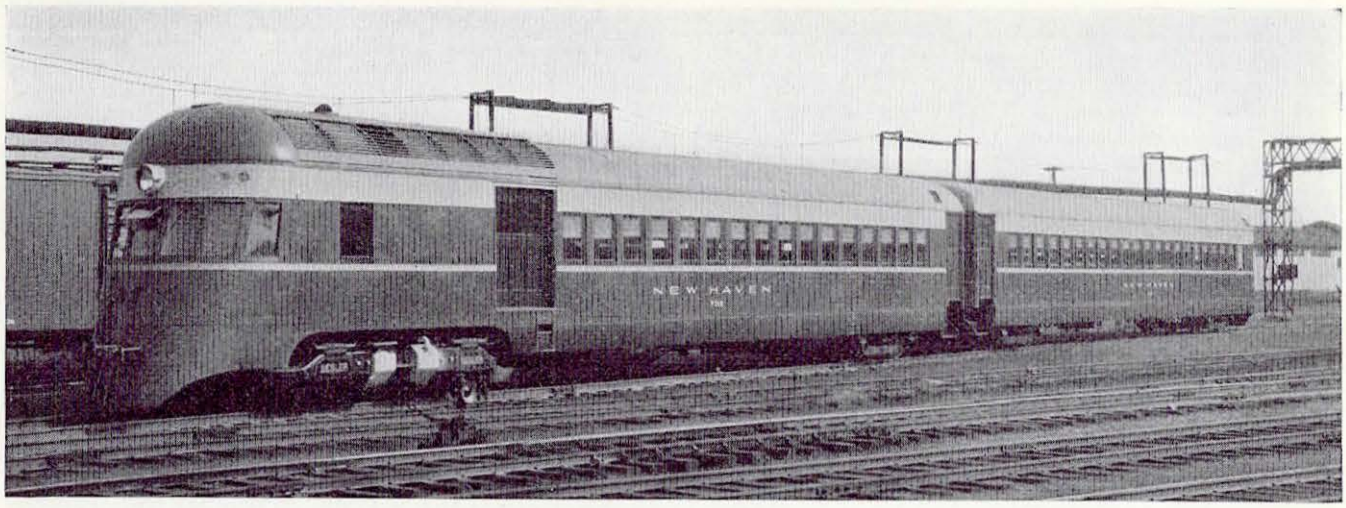
The holding of a real mechanical convention next year will also present an opportunity to play up and publicize certain recent railway accomplishments, such as light-weight high-speed trains, air conditioning, etc., in such a way as to create a favorable public reaction. *Railway Age* feels strongly that the present favorable sentiment of both railway and supply company officers for a well-attended Mechanical Division convention next June, in conjunction with an exhibit by the Railway Supply Manufacturers' Association, should be encouraged and the convention held, to the mutual benefit of railways, supply companies and the general public.

Does New Deal Dictate Rate Policies of I.C.C.?

> Freight loadings are steadily going up. Passenger receipts are steadily going up, have in some cases doubled, because your government made the railroads cut rates and make money.
>
> *President Roosevelt in an address at Chicago*

The above is one of the claims made in a characteristically exuberant speech by the President as one of the reasons why his administration deserves to be re-elected. The statement carries serious implications. Either the administration has had a hand in rate decisions by the Interstate Commerce Commission, for which the President takes credit, or it has not. If it has, then the President by his statement has, by implication, impugned the integrity of the Interstate Commerce Commission.

If, on the other hand, the administration has had no hand in the decisions of the Interstate Commerce Commission on rate matters—then claiming credit for them is grossly misleading. The Interstate Commerce Commission *should* be so safe from political interference that an administration would have no more right to assume credit for its actions than for the decisions of the United States Supreme Court. Unless the New Deal wishes it understood that it has violated the integrity of the Interstate Commerce Commission, then it is no more to be credited for the rate policies of that body than it is for the Supreme Court decision invalidating the N. R. A. The Commission has, by unavoidable implication, either been maligned, or is the victim of a charmer who kisses and tells.



Exterior of the New Haven's Streamlined Steam Train

New Haven Two-Car Train With Besler Steam Power Plant

Streamlined rail train for use on short local run powered with high-pressure compound condensing engines and flash type automatic boiler

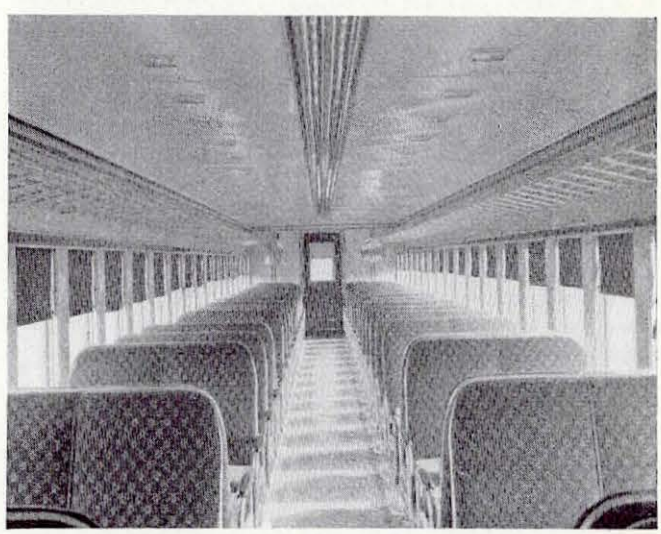
AT a meeting of the New York Railroad Club, held in the Engineering Societies Auditorium, New York, on October 16, the streamlined two-car steam-powered train recently placed in service on the New York, New Haven and Hartford between Bridgeport, Conn., and Hartford, was described in an interesting manner supplemented by slides and motion pictures. K. Cartwright, mechanical engineer of the New Haven, described the train and its service while the power plant was described in talks by Geo. D. and William J. Besler, of Besler Systems, licensors and builders. At the close of the presentation the latter speaker answered a number of questions concerning the power plant.

Description of Train by Mr. Cartwright

For some time the New York, New Haven & Hartford has been searching for a suitable unit for operation on a number of local main-line and branch runs. The business on these runs is beyond the capacity of a single gasoline-electric car and when a trailer was added a gasoline-electric car would not make the schedules required. This service was being handled by a steam locomotive and three cars—one baggage car and two coaches. A self-contained unit having a seating capacity of approximately 150, with a small baggage space, would be adequate for the normal amount of business. Such a unit could, of course, be quite readily provided in a Diesel-electric. This, however, makes a relatively heavy and expensive unit.

In 1934 the Besler high-pressure steam power plant was brought to the attention of the New Haven officers. This had the advantage of providing the required amount of power with considerably less weight and expense than would be required for a Diesel-electric power plant. A self-contained unit of this type should be able to show considerable economy in operating expense over the steam locomotive, and terminal expense such as engine-house maintenance would be appreciably reduced. In view of the possible economies that might be effected, after thoroughly investigating the Besler power plant it was decided to go ahead with an experimental unit.

When this decision was first made the idea was to



The Interior of One of the Remodeled Cars

make about the cheapest application possible in order to be able to demonstrate in service the capabilities and reliability of the steam power plant. This would involve simply the application of power work, boiler, condensers and control equipment, together with building operating compartments at either end of the cars. As the proposition was advanced, however, it was found that a very much better job could be done through a rather complete rebuilding and remodeling at a comparatively small increase in total cost.

Two old New Haven steel coaches, approximately 20 years old, were finally selected and designs worked out for remodeling them by the application of the Besler power plant and other modifications into a modern appearing streamline train. These old cars were of the monitor-roof construction, with narrow letter boards. As remodeled the exterior was changed to give an outside appearance somewhat comparable to the road's latest streamline coaches. The cars were stripped down, lower-deck roof sheets and some details of the old deck framing removed to save weight, and new carlines and roof sheets applied from side plate to upper deck sheets to form a turtleback roof. The old narrow letter boards were replaced with wide letter boards and skirting applied below the side sill and joining in with the side sheathing. All new sashes were applied, the sashes being sealed into the car.

Interior Arrangement

The interior arrangement and appearance of the car were completely changed. In the old cars saloons were placed one at each end of the car. In the new design both saloons were placed at the same end, and they were equipped with toilet and lavatory facilities, including shelves and mirrors similar to the streamline coaches. Mirrors were also applied at each end of the car. The old heavy Tucolith flooring was removed and a lightweight Tucolith floor applied over new chanarch, with an upper floor of composition rubber in a mottled gray pattern, harmonizing with the interior color scheme. This was laid in three strips running lengthwise of the car. The old seats were replaced by new walkover seats especially designed for the cars, having chromium-plated tubular frames with cushions upholstered in a blue figured plush.

The interior cross-section was radically changed, the old clerestory being supplanted by a flat headlining running across the car just below the old lower-deck carlines. Suitable framing was applied across and below the lower-deck carlines to support the new headlining. The space thus made available between the headlining and the roof in the old clerestory section was utilized for the distributing air duct for the air-conditioning system. The old lamp fixtures were all removed from the deck and the center of the car and new ceiling fixtures with prismatic lenses set flush with the headlining were applied over each seat. Modern aluminum basket racks were applied in place of the old bronze racks.

The old heating system was completely removed and replaced by fin-tube radiation, thermostatically controlled and interlocked with the air-conditioning system. A center-duct air distribution was used with an electromechanical cooling system, operated at 110 volts and driven from a separate 25-kw. generator and auxiliary engine located in one corner of the baggage room. The capacity of the air-conditioning unit in the power car is five tons and in the trailer car seven tons.

On the power car a section 8 ft. long at one end was reserved for application of the Besler boiler plant and auxiliary equipment. Following this is a 12-ft. baggage compartment. The necessary baggage-room door openings were provided in the sides of the car, sufficient reinforcement being applied to compensate for the omission of the side posts made necessary by the wide baggage-room door. The windows in this section of the car were all removed and new sheathing applied over the window openings. The entire length of 20 ft. over the boiler room and baggage-room on the roof is taken up by the condensers and exhaust-steam-driven fans. A number of special details of construction had to be worked out properly to carry the weight of condensers and fans and also maintain the necessary strength across the sides of the car.

One of the most difficult problems was in the streamlining of the ends. The operator's compartment had to be placed in the streamline end and a sufficient amount of strength had to be worked into an end design that could be readily incorporated into the existing structure. The vestibules were entirely removed with the exception of the existing vestibule end sills. Pressings were applied to the vestibule end sills in order to carry the section forward at that point, and a continuous angle formed at this section, tying into the side sill of the old structure. Other continuous formed angles were applied, tying into the old structure at the top and bottom of the letter board.

The bottom contour of the streamline end was formed by a continuous angle tying into the side-sill construction back of the body corner post. Vertical channel sections were applied, running from the bottom to the top between the window openings in the operator's compartment. A continuous formed outer belt rail was applied, tying in with the existing belt rail back of the body corner post. In this manner a very substantial and adequately protected operator's compartment was obtained. The necessary control apparatus was applied in each compartment and the train is operated in either direction without turning.

Trucks and Brake Equipment

The old truck under the boiler end of the power car was replaced by the Besler power truck, all other trucks remaining the same. The old PC brake was removed and replaced by HSC equipment, and two brake cylinders, 10 in. by 10 in., were used on the power truck, the old 16-in. by 12-in. cylinder on the original car being retained for braking the rear truck on the power car. One 16-in. by 12-in. cylinder is used for braking the trailer car. The old axle generators and batteries were removed from both cars, a new battery being applied to the trailer car of only sufficient capacity to provide starting for the Besler equipment. The lights are operated from the 5-kw. auxiliary generator in the boiler room, this generator being in continuous operation whenever the train is in service.

Fuel and water tanks of 500 gallons capacity each were applied to the power car. The cars were semipermanently connected together, the old couplers and draft gears being retained. The free travel in the draft gears was taken up and some initial compression placed in both gears so that no slack action would be experienced. The uncoupling levers were removed, necessary wiring and control connections were made between the cars by jumpers which can be removed if it should ever be necessary to cut the cars apart.

The interior of the cars was finished with the same color scheme as the road's streamline coaches, the headlining being a light cream down to the frieze board; frieze board, window panels and ends of car down to window capping, aluminum, and sides and ends below the window capping, a dark gray. A red stripe was carried around the car at the molding above and below

the baggage rack. The exteriors were painted a royal blue up to the letter board, with a stripe of pimpernel scarlet the full width of the belt rail. The letter board was finished in aluminum and the roof a darker shade of blue.

Schedule of Operation

After some experimental runs the train has been placed in service, operating between Bridgeport and Hartford via Waterbury, on the following schedule:

Leaving		*Arriving*		*Miles*
Waterbury ...	6:00 a.m.	Bridgeport ..	6:50 a.m.	31.90
Bridgeport ...	7:05 a.m.	Hartford ...	9:05 a.m.	62.93
Hartford	9:20 a.m.	Bridgeport ..	11:15 a.m.	62.93
Bridgeport ...	12:35 p.m.	Waterbury ..	1:30 p.m.	31.90
Waterbury ...	1:50 p.m.	Bridgeport ..	2:40 p.m.	31.90
Bridgeport ...	3:45 p.m.	Waterbury ..	4:40 p.m.	31.90
Waterbury ...	5:40 p.m.	Bridgeport ..	6:35 p.m.	31.90
Bridgeport ...	9:25 p.m.	Waterbury ..	10:20 p.m.	31.90
				317.26

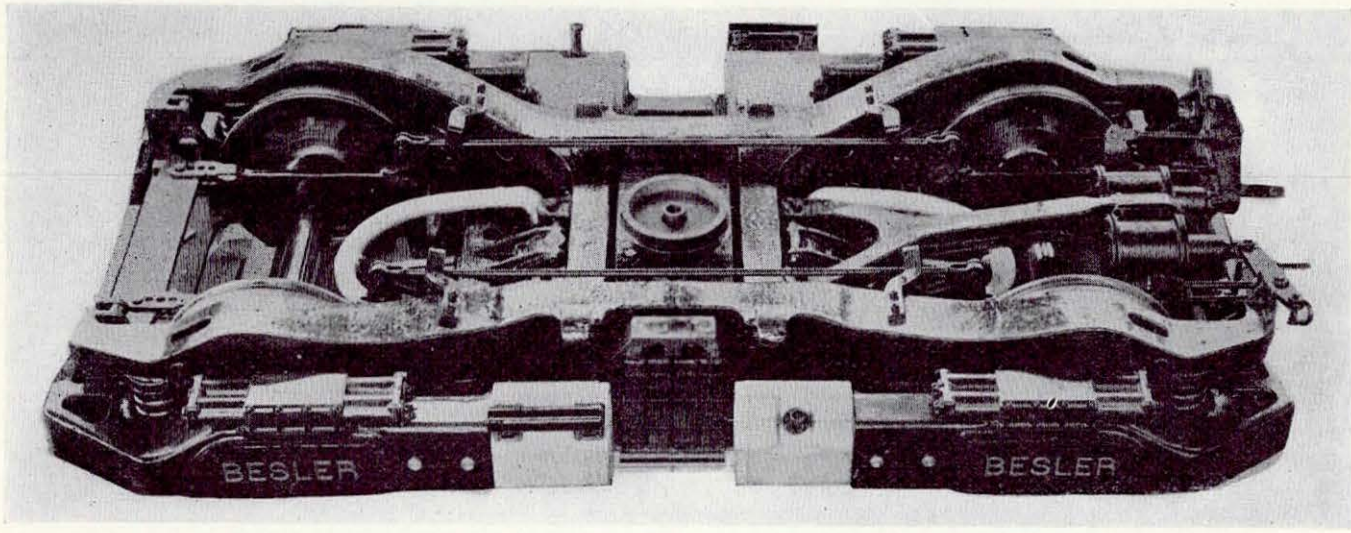
This gives a total daily mileage of 317.26 miles. This service is rather severe as there are a number of stops and some severe grades. While it was not expected that the performance of this unit would equal the performance of the existing light-weight streamline trains, such as the Comet, it has shown up very satisfactorily considering the horsepower-weight ratio.

As finally completed, loaded with fuel and water ready to run, the weight of the Besler unit is 303,600 lb. The two steel coaches which were converted into this train had a weight of 258,400 lb. The application of the Besler power plant and the modernizing of the two cars, plus fuel and water therefore has only added 45,200 lb to the weight of the original equipment. With 500 hp. available at the rail the Besler train, ready to run, has a horsepower-weight ratio of 607 lb. (3.3 hp. per ton). The New Haven Comet, loaded with fuel and water ready to run, weighs 260,590 lb.. This is powered with two 400-hp. engines, giving a total of 800 hp. If, however, all auxiliary equipment is in operation at once, considering the efficiency of the electric drive, a minimum of 600 hp. is available at the rail. This gives a horsepower-weight ratio of 434 lb. (4.6 hp. per ton). If, instead of applying the Besler power plant in the older steel coaches as was done in this case, such a power plant were applied to two of our modern light-weight streamline coaches, it is reasonable to expect that a two-car train could be built with a total weight, ready to run, of approximately 250,000 lb. This would have a horsepower weight-ratio of 500 lb. (4 hp. per ton). This would compare very favorably with the New Haven's Comet which has the lowest horsepower-weight ratio of any streamline train now in operation.

Fuel Consumption

While it is too early yet to say very much about cost and reliability of operation of this unit, there is every indication that it is going to be satisfactory. In operation the train is very quiet and the riding qualities are excellent. The acceleration could be improved upon somewhat as would be expected in view of the horsepower-weight ratio. Since being placed in service the train has been out of service twice for water-pump trouble, once for packing-ring trouble due to the main engine lubrication being entirely shut off for some unknown reason, and once for a slight repair to the boiler. Only continued service will completely demonstrate the reliability of this type of equipment. The fuel consumption of the Besler train in its present schedule seems to be approximately 0.6 miles per gallon of fuel oil.

The only basis of comparison we have with Diesels is our Comet which, under its schedule, uses 1.6 miles per gallon of fuel oil, including the oil used for heating. It is hardly fair to make a direct comparison, however, between these two runs, as the Comet is making practically a non-stop run between Boston and Providence, and the Besler train is operating on a schedule with frequent stops and with grade and curve conditions gen-



The Besler Power Truck with the Two High-Pressure Condensing Engines

General Statistics of Besler Train Compared with Comet

	Besler train	The Comet
Total horsepower	550	800
Horsepower at rail	500	598 (min.)
Seating capacity	152	160
Baggage capacity	12 ft.—3,000 lb.	None
Overall length, ft. and in.	163—2½	207—0
Total weight, ready to run, lb.	303,600	260,590
Distributed weight, power truck, lb.	104,000	86,835
Trailer truck power car, lb.	67,000	43,890
Trailer, inside truck, lb.	65,000	44,375
Trailer, leading truck, lb.	67,600	85,490
Weight light train, lb.	296,100	248,590
Weight power plant and control, lb.	32,700 (approx.)	71,039

erally more severe than those under which the Comet is operated.

The accompanying table gives some general statistics covering the Besler train in comparison with the Comet.

The Power Plant, Described by Geo. D. and William J. Besler

When we undertook this development and determined that an automatic high-pressure steam power plant was the solution for railway motive power requirements we were influenced by many considerations, chief among which were the following:

1. The space requirement of the power plant should be the very minimum. The cost of modern trains per lineal foot is quite high. Every foot saved increases the earning capacity of the train.

In the New Haven train our engine-room equipment occupies but 6¾ linear feet, which includes an aisle. This is equivalent to 1.2 ft. per 100 horsepower at the wheel. The space saved over competing types of motive power is over 20 ft. on the basis of equivalent wheel horsepower at the rail. This is equal to the space occupied by 26 seats which represents a potential increased earning capacity of 52 cents per mile.

2. In choosing a power plant we considered it essential to look into the future to see what fuels were available and what would be their probable costs. We decided it was necessary to produce a power plant which could use the cheapest kind of fuel oil or coal if required.

At the present time, with the increased use of the lighter fuels their cost is rapidly beginning to rise. It is not yet necessary for us to use the cheapest fuels in America, but our licensees in Germany are already burning coal and coke in their rail-car power plants and we can do the same whenever it becomes commercially justified.

3. We considered light weight to be equally as important as ability to burn the wide range of fuels. Some of the modern light-weight trains have power plants which represent a good portion of the weight of the entire train. Much effort has been spent to reduce the weight of trains so that the power plant could give a satisfactory performance. The New Haven train is of standard, heavy construction, weighing 303,600 lb. complete. The weight of our power plant in a 1,000-hp. size is but 44 lb. per hp. at the rail.

4. We felt that if we were to expect a reasonable volume of business that not only the first cost, but also the maintenance of our power plants should be reduced to a minimum, while the availability should equal or exceed any type of power plant so far produced.

We believe we have achieved these features as our unit costs less than competitive types of power and the design has been so worked out that all parts are accessible and easily maintained.

As to availability, the New Haven train is on the move from 5:30 in the morning when it leaves the yard until 11 o'clock at night when it returns. We see no reason why it could not be operated continuously except for the time required for servicing and checking.

5. The railroads of America are familiar with steam, the flexibility and reliability of which are beyond question. Our unit is a steam power plant. The fully automatic controls are simple and reliable.

The above five factors were the principal reasons for the selection of a steam power plant, although there are a great many more, some of as great importance as those we have mentioned. For instance, our steam power plant is at present using about two gallons of lubricating oil per day on scheduled runs of approximately 320 miles. As contrasted to this the cost of lubricating oil for some internal combustion power plants runs over half the cost of fuel, even when the engines are new.

Another of the savings which we can effect with our power plant is the heating load. We use the steam from the auxiliary engine to heat the car, hence there is no loss of power on account of the heating load and the fuel mileage of the car is not adversely affected since the cars are warmed by waste heat.

The Power Truck

The overall length of the power truck is 17 ft. 8 in., and the total width over the cylinder lagging cover is 9 ft. 5 in. The wheelbase is 11 ft. 6 in., and Bethlehem low-carbon molybdenum wheels with chrome vanadium axles are used. Four coil springs at the extremities support the over-riding truck frame which in turn supports the car body through a conventional swing bolster and elliptical spring plank.

Simplex clasp brakes are used, with two brake cylinders mounted on the truck. Westinghouse slack adjusters are provided, and there are two brake shoes on each wheel.

The over-riding truck frame is a large four-legged spider, and the two engine yoke frames, which ride with and take their alignment from the axles, are attached to the truck frame by ball joints.

The total weight of the power truck is 35,000 lb.

The Engine

There are two direct, two-cylinder compound engines, each having cranks pressed onto extensions of the axle stub outside of the journal bearings. The high-pressure cylinder is 6½ in. in diameter and the low-pressure cylinder is 11 in. in diameter. Both cylinders have 9 in. stroke. These are conventional double-acting compound engines, with piston valves. The crossheads are cylindrical in shape and are made of cast steel with babbitted shoes. All bearings are of the roller type throughout and all working parts are machined all over.

The valve mechanism is a Stephenson link motion arranged to be operated pneumatically and to give two positions forward and two positions reversed. All piston and valve rods are of Nitralloy and the wrist pins are of the full floating type, made of Nitralloy running in phosphor-bronze bushings. The lubrication is accomplished by splash within a sealed crankcase, and a circulating plunger pump is furnished to assure lubrication at slow speeds. The cylinder relief valves are air operated.

The engine is designed for a steam pressure of 1,500 lb. per sq. in. and, at 1,200 lb. inlet pressure, the truck has an average starting tractive force of 15,000 lb. The truck is rated at 1,000 hp., although it is capable of producing more than this with sufficient boiler capacity.

Boiler—The boiler is of the continuous-flow non-water level type. It has no drum or headers, but is a continuous tube from boiler inlet to the throttle, the water entering at the top and passing down through the pancake coils where it is heated and then it boils in the helical coils at the bottom, surrounding the combustion space, and passes to the superheater coils, just above the firebox, finally emerging as superheated steam.

The boiler is equipped with fully automatic safety devices to protect against empty water tanks or other

contingencies. It is 4 ft. in diameter and 6 ft. 5 in. in height. The minimum tube diameters are ¾ in. and the maximum tube diameters are 2¼ in. The inner boiler casing is made of corrosion-resisting Inconel, and the outer casing, separated from the inner casing by insulating brick, is made of sheet iron.

The Oil Burner

The burner is of the pressure atomizing type of our own design and construction. It automatically meters the fuel in proportion to the flow of air which is delivered by a multivane type blower. Adjustment is not necessary because of a change of altitude or a change in draft pressure, and the burner automatically compensates for changes in air flow caused by entering tunnels, high speeds, or cross winds—in every case metering the correct amount of fuel. The burner operates fully on or off. Ignition is secured by a high-tension electric spark.

Auxiliary Engine

The auxiliaries are driven by a two-cylinder, 90-deg. V-type double-acting steam engine. The water pump drives are integral with the main crank shaft. The auxiliary steam engine drives the electric generator through V-belts. The generator supplies current for lighting, ventilating and for the requirements of the power plant. The auxiliary engine also drives the air compressor and the forced-feed main-engine lubricators. It operates at a back pressure and exhausts into the train-heating line. When train-heating is employed the power used to drive the auxiliaries represents only two per cent of the boiler output.

The Condenser

The condensers are of the fin and tube type, placed on the roof of the car. Propeller type fans driven by individual exhaust-steam turbines of our own design and manufacture are located adjacent to the condenser cores on the roof and draw air through the cores, discharging it upward.

The turbine speed inherently varies in proportion to the steam flow, producing the optimum relation between air flow and condenser load at all outputs.

The train has pneumatic duplicate controls so that it can be operated from either end.

Discussion

At the close of the presentation of these papers W. J. Besler answered a number of questions asked from the floor concerning the power unit. Among the most pertinent of these answers were some to the effect that oil used for engine lubrication is carried over into the boiler and serves to prolong the life of the boiler tubes; that the feedwater is controlled automatically and is proportioned according to the temperature within the boiler; that the burner will handle almost any type of fuel available in this country.

Answers to other questions indicated that the combustion rate is over 500,000 B.t.u. per cu ft. per hour; stack temperatures are approximately 500 deg. F.; the engine water rate can be maintained at approximately 10 lb. per hp.-hr. over a pressure range of from 1,200 lb. down to 400 lb.; the inlet pressure at the low-pressure cylinders is about one-quarter of the pressure at the high-pressure cylinders; the guaranteed speed of this train is 70 m.p.h., although a speed of 82 m.p.h. has been attained; the auxiliaries require about 32 hp. Working pressure on the boiler can be attained from the cold boiler in four minutes, although about 12 minutes are required for pumping up air pressure for brakes and pneumatic controls.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading continued to increase in the week ended October 10 to a total of 820,195 cars. This was 1,069 cars more than the total for the preceding week and an increase of 86,041 cars, or 11.7 per cent, as compared with the corresponding week of last year, although it was 11.9 per cent below the loading for the corresponding week of 1930. All commodity classifications except grain and grain products showed increases as compared with last year, miscellaneous freight increasing 54,275 cars, but the loading of coal, grain, livestock, and coke showed decreases as compared with the preceding week. The summary, as compiled by the Car Service Division of the Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ending Saturday, October 10

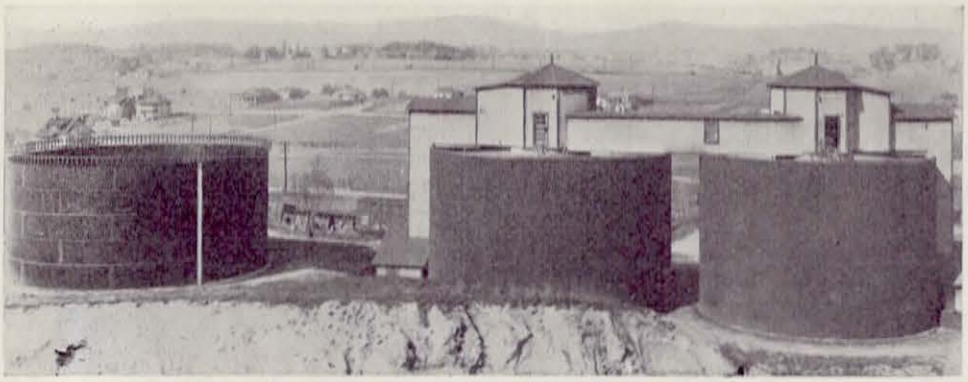
Districts	1936	1935	1934
Eastern	162,372	151,083	130,559
Allegheny	160,723	133,420	111,827
Pocahontas	58,089	53,530	44,768
Southern	111,188	101,508	86,430
Northwestern	138,541	116,703	95,575
Central Western	126,146	118,330	111,167
Southwestern	63,136	59,580	56,673
Total Western Districts	327,823	294,613	263,415
Total All Roads	820,195	734,154	636,999
Commodities			
Grain and Grain Products	30,058	37,014	30,633
Live Stock	21,911	22,727	31,508
Coal	155,714	146,815	120,512
Coke	10,333	8,277	5,373
Forest Products	34,813	32,404	21,922
Ore	60,752	33,734	17,938
Merchandise L.C.L.	172,768	164,612	162,295
Miscellaneous	333,846	288,571	246,818
October 10	820,195	734,154	636,999
October 3	819,126	705,974	632,406
September 26	807,070	629,934	646,084
September 19	789,510	706,820	644,498
September 12	699,859	699,786	647,485
Cumulative Total, 41 Weeks	27,817,913	24,552,212	24,631,857

Car Loading in Canada

Car loadings in Canada for the week ended October 10 totaled 60,219, as against 60,278 for the previous week and 58,571 for the corresponding week last year, according to the weekly statement of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
October 10, 1936	60,219	25,497
October 3, 1936	60,278	24,231
September 26, 1936	59,835	23,134
October 12, 1935	58,571	22,049
Cumulative Totals for Canada:		
October 10, 1936	1,909,519	942,419
October 12, 1935	1,833,683	868,786
October 13, 1934	1,804,067	886,592

EIGHTEEN CARLOADS OF WINE were brought into New York by the New York Central on October 17. The shipment which came from California consisted of 144,000 gallons transported in tank cars. This, the New York Central announcement says, "is believed to be the largest trainload of wines in history." The 18 cars, it adds, held enough wines "to supply a drink to the entire population of greater New York." The shipment was consigned to a New York company which plans to market the wines in cans.



Shaffers Crossing Plant, Roanoke, Va., with a Lime-Soda Ash Treatment Capacity of 2,900,000 Gal. Per Day, Is the Largest Water Treating Plant on the Norfolk & Western

Water Supply a Large Factor in Economical Train Operation

A review of the extensive improvements which have been made in Norfolk & Western water service, and of their importance in bettering service and reducing locomotive repair costs

By F. P. Turner

Principal Assistant Engineer, Norfolk & Western

A GOOD example of the extent to which the railways have gone in providing new and improved locomotive water facilities to improve service and reduce the cost of train operation and locomotive maintenance, is found on the Norfolk & Western, where, during the last 20 years, and, more particularly, during the last 10 or 15 years, locomotive water facilities over the entire system have been brought into step with or have paved the way for longer engine runs, fewer water stops and faster train schedules. In this program of improving water facilities, which was accompanied by the adoption of heavier power and larger engine tenders, main water stations have been established approximately 30 miles apart, equipped to insure an adequate dependable water supply at all times, and also to insure the highest quality of boiler water.

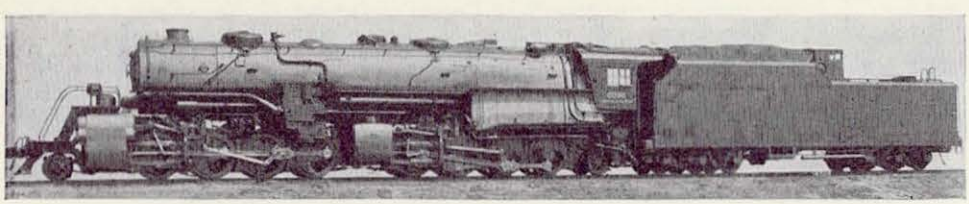
Largely Expanded Operation

As a direct result of these improved facilities, locomotive boiler washing and maintenance costs have been greatly reduced, the shopping time of locomotives has been cut materially, engine failures caused by poor quality boiler water have been minimized, and the cost of the high quality water now available is, in itself, in most instances, less per 1,000 gal. delivered than the inferior water of earlier years. Indirectly, the improved water facilities have made possible longer engine runs, a substantial reduction in the number of water stops of both passenger and freight trains, and the speeding up of train operation generally over the entire system.

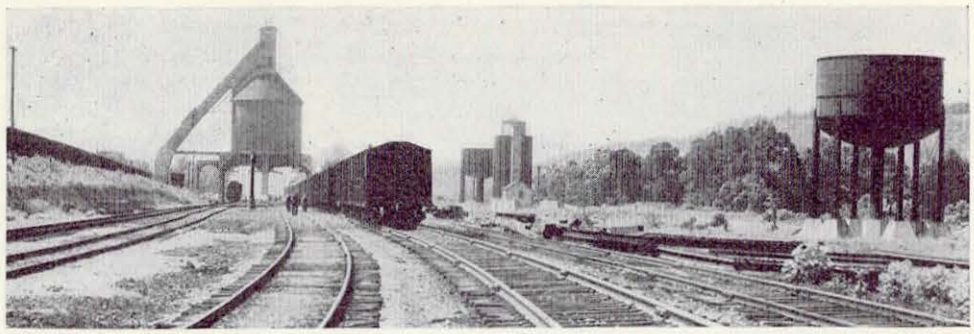
During the years 1915 to 1930, owing to economic and industrial readjustments, the Norfolk & Western experienced an unusual growth in its business, This unusual growth was reflected in a stronger track structure, longer and heavier trains, larger locomotives, larger terminals, and largely increased movement of trains over the road. To keep these trains moving with a minimum of delay was the paramount problem of the road, and it was to this end that so much attention was given to enlarging and modernizing the road's water service facilities.

One of the more important underlying reasons for the improvement of water service facilities was the gradual increase in the capacity of locomotive tender tanks, designed to make possible longer locomotive runs between water stops. As early as 15 years ago, the road began using locomotive tenders having a capacity of 15,000 gal. Finding that these produced favorable results, tenders with capacities of 16,000 to 18,000 gal. were put in service, and finally, by 1929, a considerable number of tenders with capacities of 21,000 and 22,000 gal. were in service.

The gradual transformation in the size of tenders was accompanied by the gradual increase in the class of power used, the lighter and less powerful passenger and freight engines giving way to Mountain-type locomotives for



One of the Mallet Locomotives in Operation on the Norfolk & Western, Equipped with a 22,000-Gal. Tender Tank



The Water Supply Facilities at Prichard, W. Va., Include a 200,000-Gal. Raw-Water Storage Tank, a 1,440,000-Gal. Per Day Water Softener, and Two 200,000-Gal. Treated-Water Storage Tanks

passenger and fast freight service, and to heavy Mallet locomotives for general freight service, until practically all main-line steam power is now of one or the other of these two classes.

With this heavier power and large capacity tenders came the extending of the runs of passenger and freight locomotives over two or more operating districts, each of which had been covered formerly by a different locomotive. The first experiment along this line in passenger service was made during the summer of 1923 when through runs between Lynchburg, Va., and Bluefield, W. Va., a distance of 154 miles, were substituted for the practice then in effect of using two locomotives in this territory. This experiment was accomplished so effectively with the Mountain-type locomotives that through passenger engine runs were established between Roanoke, Va., and Portsmouth, Ohio, a distance of 320 miles. This run was formerly made by three locomotives, one from Roanoke to Bluefield, a distance of 101 miles, another from Bluefield to Williamson, W. Va., a distance of 105 miles, and a third from Williamson to Portsmouth, a distance of 114 miles. The success of this method of operation and the large savings effected through reduced locomotive maintenance costs, lessened fuel consumption, increased engine mileage and lessened terminal stand-by time, gave impetus to a program of long engine runs which has since spread over most of the system in both passenger and freight service.

The long fast engine runs have been made possible largely by the class of power employed, but the unusually successful performance of the Mountain-type and Mallet locomotives in making these multiple-division runs has been due in no small measure to the larger capacity tenders employed with these locomotives, and to the enlarged and improved water service facilities provided, which have made an adequate and dependable water supply of high quality available where necessary. As a matter of fact, it is recognized that without the enlarged and improved water facilities, the advantages of fewer water stops and faster schedules gained through the use of heavier power and large tenders would have been impossible.

Water Supply an Early Problem

Throughout the territory served by the Norfolk & Western, which, for the greater part of its length follows streams, with high ground or mountains on each side, many of the early water supply stations were fed by gravity pipe lines having their source of supply in the hills at a sufficient height above the tracks to insure flow directly into storage tanks adjacent to the tracks. Supply lines of this character varied from 2 in. to 4 in. in diameter, and the water tanks were small compared with present-day service tanks.

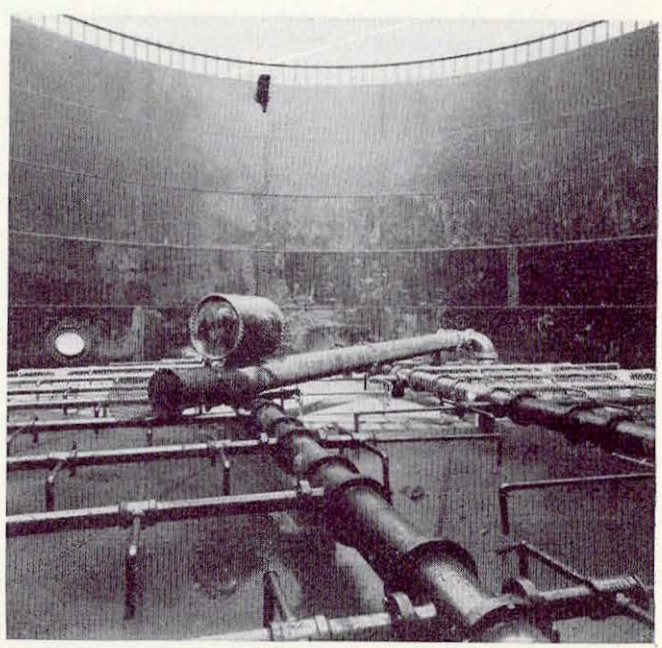
The difficulty encountered with such facilities lay primarily in the fact that they frequently failed during periods of dry weather. The road, therefore, was compelled to install pumping stations along streams to supplement the gravity supplies, and thereby avoid costly delays.

The pumping stations constructed from 1890 to 1900 consisted essentially of steam pumps of 125 to 150-gal. per min. capacity, located in small frame buildings and supplied by 30 to 48-in. vertical-type steam boilers. Wood service tanks of approximately 25,000 gal. capacity were generally provided at these stations. During these early days, water stations were located at intervals of about 10 miles, and freight trains, with locomotive tender capacities of 4,000 to 5,000 gal., necessarily made water stops at practically all of the stations, particularly in territories with ascending grades.

As traffic increased, two locomotives were used on tonnage trains and the question of supplying water in sufficient quantity became more important. Likewise, the time consumed in making these numerous water stops increased largely and added materially to the cost of operation. To meet the increasing demand, pumping plants with capacities of 200 to 300 gal. per min. were installed at many points and the size of service tanks was increased to 50,000 gal., two such tanks being provided at the more important water stations to insure an ample supply.

Treatment Began in 1905

While much had been accomplished in improving locomotive water supplies on the road prior to 1900, the period of important improvements in this regard did not begin until about 1902, when the question of the

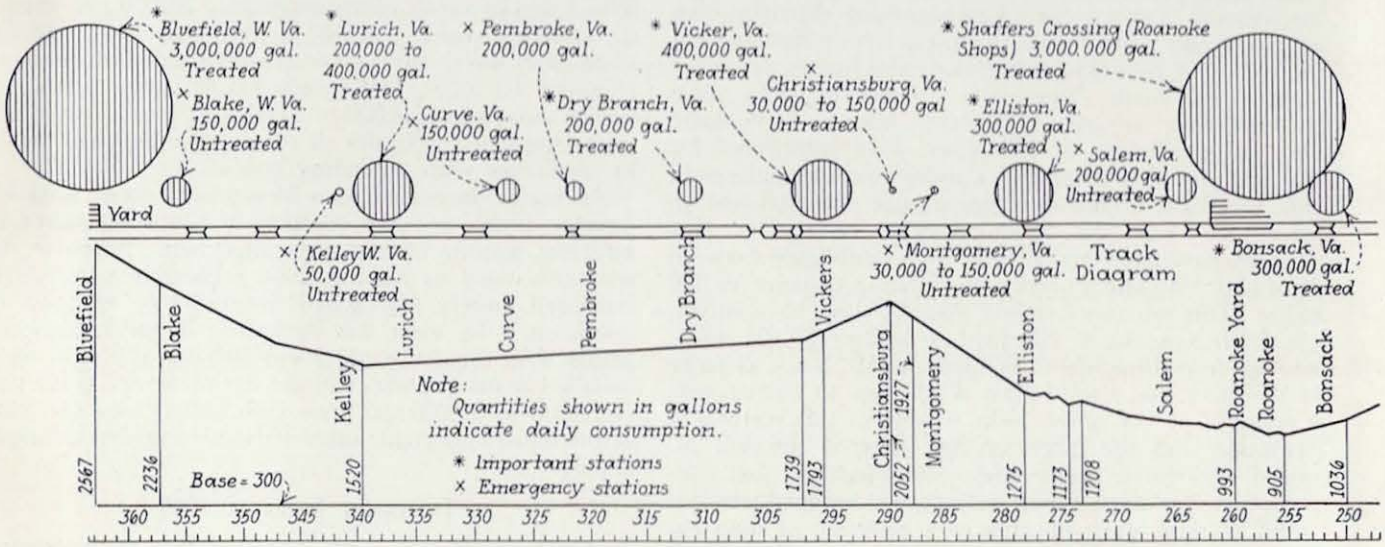


The Sludge Collecting System in the Bottom of the 460,000-Gal. Treated Water Storage Tank at Shaffers Crossing, Roanoke, Va., Installed in 1935. Diagonal Pipe with Screen Is the Hinged Clear Water Skimmer

quality of the water, as well as the quantity, was made the subject of special study. Over much of the territory served by the road, limestone predominates in the earth structure and, as a result, natural water supplies contain a large amount of lime. This lime deposited rapidly upon the flues and sheets of locomotive boilers, and not only made boiler maintenance expensive but also frequently caused boiler failures in service.

The treatment of the water by chemicals to minimize its lime content was first undertaken in 1905, at which time two lime-soda-ash water treating plants were installed on the road. These plants proved so effective in reducing the amount of incrustation within boilers, and in improving locomotive operation, that numerous other treating plants were installed on the system. In those districts where the lime content of the water was the greatest, the number of treating plants was increased until treated water comprised a high percentage of all consumed in a single water stop, and the benefit which would be derived if only one water stop was eliminated on each engine district was evident.

With the proposed new method of operation, the problem of water supply became that of modernizing and increasing the capacity of certain principal stations, and of reducing to a minimum the cost of operating and maintaining stations which would be used less frequently. The concentration of water stops at particular points required larger capacity for treatment and for storage or direct delivery to locomotives at these points, and also that special attention be given to the quantity and quality of water available. In conjunction with the consideration of these factors, special study was given to the location of the important stations with regard to approaching and leaving track grades, and to the arrangement of main and side tracks in order to be able to serve several trains at a time. For these important improvements, water service stations were selected approximately 30 miles apart.



Water Station Chart, Bluefield, W. Va., to Crew, Va., Showing How Large-Capacity Water Stations

water consumed. From 1910 to 1912, inclusive, approximately 20 improved water treating and storage plants were constructed on the Western General division alone.

The benefits derived from these expenditures for water treatment were immediately manifested in reduced fuel consumption, a reduction in loss of time occasioned by boiler washings and boiler repairs, and longer service life of flues and sheets. Furthermore, the improved quality of the water reduced materially the number of engine failures, and actually made it possible for fewer locomotives to handle requirements of a given territory.

In this program of water service improvements, up to about 1915, treating plants were located at intervals of about 20 miles along the line, the most reliable water sources being selected, giving consideration also to prevailing grades against the heavier traffic. At the same time, similar improved facilities were provided at shops and terminals, where, in many cases, plants of large capacity were required.

Fundamental Changes Started in 1920

About 1920, when the road was first giving consideration to larger engine tenders and heavier types of locomotives to reduce the running time between terminals through a reduction in the number of stops for water, it started upon another large program of improvements in its water service facilities. Operating experience had indicated that in some instances as much as 30 min. was

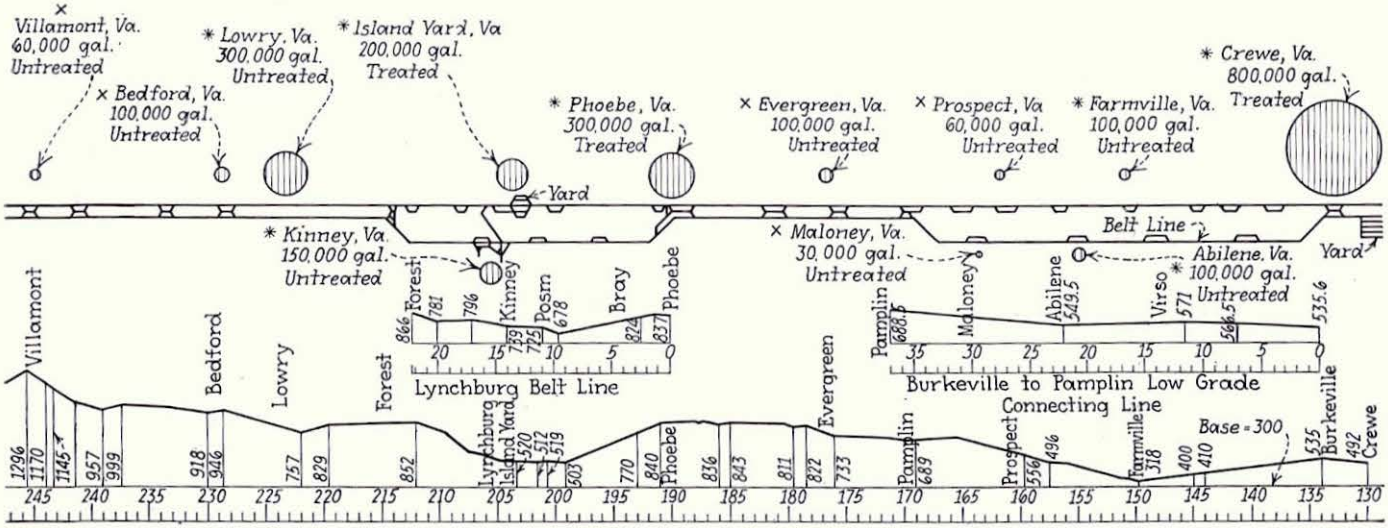
At these important line water stations, and at terminals, the N. & W. established some of the largest, most modern and complete locomotive and shop water facilities in the country. This, in most instances, was accomplished by enlarging the existing facilities through the erection of additional tanks and the installation of pumps and treating plants of larger capacity, but in a few instances, completely new facilities were built.

The features given primary consideration in the design of the larger water stations were the capacity of the pumps and treating plants, and the size of the storage facilities for treated water. Depending upon conditions, pumping plants with capacities ranging from 500 to 3,500 gal. per min. were provided. These were supplemented by treating plants with capacities ranging from 25,000 to 60,000 gal. per hour, which made delivery to 200,000-gal. steel storage tanks installed at points convenient for supplying locomotives operating in both directions. Where required, standpipes were provided to serve each track in the layout, and were so arranged that at least two trains in each direction can take water at one time without interfering with each other. At some of the larger terminals, the water treating plants provided have capacities of 100,000 to 125,000 gal. per hour.

During this period when large capacity pumping and treating plants were being provided, there was also a marked improvement in the design and installation of

pumping equipment. Wherever electric current was available, motor-driven centrifugal pumps were installed in duplicate. Where an attendant was necessary to operate the water treating facilities, push-button control of pumps was provided, and where water treatment was unnecessary, many of the pumping plants were made to operate automatically, controlled by a float switch. This was true particularly at the less frequently used intermediate water stations, where every effort was made to cut down operating expenses.

At outlying points between terminals, where treating plants are not in service, motor-driven centrifugal pumps with capacities of 300 to 350 gal. per min., either singly or in duplicate, supply our requirements. Where treating plants are required, the capacity of the pumping equipment varies from 500 to 3,500 gal. per min. In both cases, the equipment is installed in a water-proof concrete well, the pumps being set not more than five


× Villamont, Va. 60,000 gal. Untreated
× Bedford, Va. 100,000 gal. Untreated
* Lowry, Va. 300,000 gal. Untreated
* Island Yard, Va 200,000 gal. Treated
* Phoebe, Va. 300,000 gal. Treated
× Evergreen, Va. 100,000 gal. Untreated
× Prospect, Va 60,000 gal. Untreated
* Farmville, Va. 100,000 gal. Untreated
* Crewe, Va. 800,000 gal. Treated
Yard
* Kinney, Va. 150,000 gal. Untreated
× Maloney, Va. 30,000 gal. Untreated
Belt Line
Yard
Abilene, Va. * 100,000 gal. Untreated
Lynchburg Belt Line
Burkeville to Pamplin Low Grade Connecting Line
Base = 300

Have Been Located Along This Important Section of Main Line, with Emergency Stations Between

feet above the low water line in the case of the smaller pumps, and below the water line in the case of the larger capacity pumps. The wells extend to a point several feet above the highest ground water mark and are covered to protect the equipment from the weather.

At pumping stations of moderate requirement, single-stage double-suction horizontal centrifugal pumps are being used, and the motors ordinarily are wound for 220-volt, 3-phase, 60-cycle alternating current, and are operated at a speed of 1,750 r.p.m. Higher voltage motors are frequently used successfully and with economy at terminals.

In the detailed study given to water treatment, our chemists make analyses of samples of water from all water stations on the road. These samples are selected under varying conditions of flow, so that we are in a position to determine the most desirable treatment under any conditions that may arise. This is important because, in the season of low water, adequate treatment often requires the use of more chemicals than during periods when normal flow prevails. The lime-soda ash method of treatment, which is used extensively on our road, is designed to remove all incrusting solids above five grains per gallon of water. With the amount of chemicals to be used prescribed for each location, depending upon the hardness of the water, uniformly good results are obtained.

About five years ago, an additional refinement in treatment was introduced at all of our lime-soda treating plants, and also at many outlying points where no treatment had been applied previously. This additional treatment consists of introducing dry sodium aluminate into the water at lime-soda treating plants, and liquid sodium aluminate solution into the raw water at points not equipped for other treatment. In the latter case, the solution is introduced into the water at a uniform rate just before it enters the engine tank. By the addition of the sodium aluminate, incrusting solids in the treated water have been reduced to 1½ grains per gal. This water is regarded as practically pure.

The cost of treating water in the manner described varies with the amount of impurities contained in the water. Many of the plants constructed represent a considerable outlay of money, but the cost of treatment at these plants has been reasonable, based upon the benefits obtained. Ordinarily, the larger the water demand, the lower is the cost of treatment. Lime-soda treatment, exclusive of interest on investment in the plant, costs from 4½ to 5 cents per 1,000 gal., including pumping. Sodium aluminate treatment costs from 2 to 3 cents per 1,000 gal. Records of water treatment for railway use, supplied by many roads, indicate that approximately 1 lb. of scaling impurities is removed in the treatment of approximately 550 gal. of water.

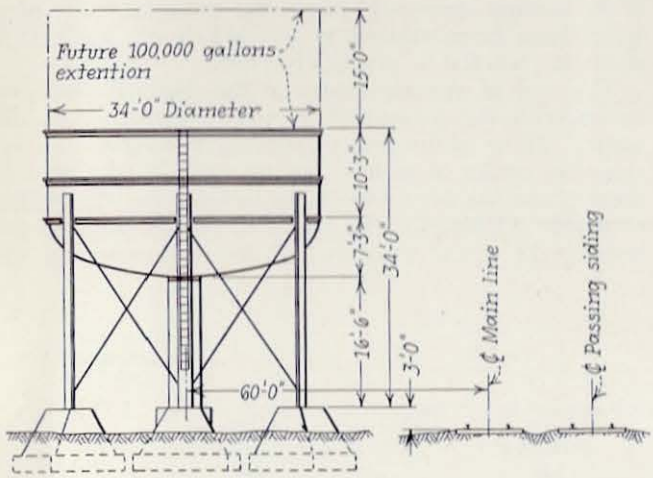
Filters and Special Storage Tanks

In addition to the treating of water chemically as described to remove incrusting solids, the Norfolk & Western has found it advantageous to employ pressure filters at many points where a large amount of suspended matter is carried in stream water supplies during and after storms. These filters have been installed both in connection with chemical treatment and at points where such treatment is unnecessary. The filter units have a capacity of approximately 375 gal. per min., and one unit usually meets the requirements, except at terminals where the water consumption is particularly large. Sand and graded gravel are used as the filtering materials, and the water, after being pumped through the filter, is stored or treated in accordance with the design of the plant. Both within the filter and after treatment, alum is used as a clarifying agent.

During the period when we were remodeling and enlarging our water supply facilities, a special design of water storage tank, capable of enlargement as demands increased, was developed. This type of tank is

essentially an elevated steel drum with an elliptical bottom, having capacity of 100,000 gal., but so designed and erected that at any time its capacity can be doubled by simply increasing the height of its sides by the addition of a 15-ft. section.

The advantage of this type of tank at locations where future requirements are indefinite has been demonstrated



Elevation of the 100,000-Gal. Water Storage Tank Being Used by the Norfolk & Western, Which Makes Provision for Future Enlargement to 200,000 Gal. Capacity

at several points on the road. At Eckman, W. Va., for example, where an increased water supply was found desirable some time after one of the 100,000-gal. tanks was installed, the capacity of the existing tank was readily increased to 200,000 gal. by the addition of a 15-ft. standard circular section. Likewise, at Stonecoal, W. Va., a sudden change in conditions made it advisable to enlarge two of the 100,000-gal. steel storage tanks, even before the new water supply facilities being constructed at this point had been completed.

Through these extensive water service improvements, and the policy of establishing the more important plants at intervals of approximately 30 miles, in conjunction with the use of large capacity engine tenders, many benefits have resulted. However, because of the magnitude of the problem and the many intangible elements involved, no attempt has been made to evaluate accurately the total cash value of these benefits, as represented in savings. It is readily evident to every operating officer on the road, however, that greatly improved service and large savings are being effected currently, which represent a handsome return on the investment.

Associated Traffic Clubs Meet at Dayton

A TOTAL of 852 traffic representatives attended the fifteenth annual meeting of the Associated Traffic Clubs of America, at Dayton, Ohio, on October 13 and 14. The report of the educational committee, recommending the extension of educational work, was approved, and the expenditure of the necessary funds was authorized. Officers of the association were re-elected and the members voted to hold a spring convention in New York. Besides the reports of committees the program included addresses by Cornelius Lynde, commerce attorney at Chicago, on the subject, Simplification of Regulation; by John L. Rogers, director of the bureau of motor carriers of the Interstate Commerce Commission, on the subject of Motor Vehicle Regulation; and by Dr. William Mather Lewis, president of Lafayette college, Easton, Pa., on Transportation and Civilization. General T. Q. Ashburn, chairman of the Inland Waterway Corporation, who attended the meeting, recommended a reorganization of the Interstate Commerce Commission so that one committee will handle difficulties between the railroads, another between the waterways, another between the airways, a fourth between the trucks and a fifth will handle national affairs. Over all of them he suggested a permanent chairman who, with the chairmen of the committees, would constitute what he termed a supreme court of transportation. Such a plan, he said, would lead to coordination, co-operation and simplification.

Regulation

Mr. Lynde said that the first step towards simplification of the regulation of interstate transportation is a clear understanding of our existing statutory system, and particularly an appraisal to determine whether that system meets the changed conditions in the transportation field. He said that if the problem be to equalize competitive conditions between the railroads and motor carriers, there are two answers: the first is to impose upon the motor carriers all of the regulatory limitations upon freedom of competition found in the railroad laws, while the second is to treat the problem as a new one and to determine, from the standpoint of the public needs, what regulations for the protection of the shipping public should be imposed upon all and every carrier, without regard to the instrumentality used by it in furnishing transportation.

He concluded that we have departed from our original theory of regulation for, instead of limiting competition only to meet the public needs, regulation now attempts to equalize the relative burdens to be assumed as the result of regulation.

"Since the legislative program has not been completed," he said, "the final attitude of Congress has not been determined, and I submit it is not too late to reconsider the question and see whether a return to our original theory would not better serve the shipping public. This would seem to involve a considerable decrease in the burden of regulation upon the railroads, giving them greater freedom and flexibility in meeting competition—one of their objectives—and would probably result in imposing practically equivalent burdens upon other carriers. The test, however, should be a definite appraisal of the evils of competition measured from the standpoint of the shipping public; regulation designed to limit or control those evils; and the preservation of fair competition in order that, by this practical method, the ultimate results of turning over that portion of the public's traffic to a particular carrier, based primarily upon that carrier's capacity to give the best service at the cheapest rate. I am even optimistic enough to believe that, if this theory were properly applied, the result would be a simpler form of transportation regulation."

Then Rogers discussed the goal of the motor transport act, commenting upon various problems arising in its enactment, such as rates and tariffs, safety, and hours of service.

Dr. Lewis summarized the development of transportation, showing its influence upon political relationships, the place which the college and university should take in the study of transportation and the bearing of modern transportation facilities on the crime situation.

Investigation of Freight Forwarding

Relations of the Eastern railroads with consolidating companies revealed at New York hearings

RELATIONS of the Eastern railroads with the consolidating companies were revealed this week at New York hearings in connection with the Interstate Commerce Commission's investigation of freight forwarding. Opening sessions, dealing with the financial set up and operations of the three principal forwarders, were reported in the *Railway Age* of October 17. The hearings are being held before Examiners R. N. Trezise and C. A. Rice, the former presiding, while I. C. C. Attorney William J. Walsh, assisted by G. W. Rouse, also of the I. C. C. legal staff, is directing the presentation of evidence.

As the investigation proceeds it becomes evident that the operations of the forwarders have been facilitated by various rates and tariff rules and exceptions which have been published by the railroads in recent years. These include the all-commodities tariffs, the so-called promiscuous loading rules, provisions for stopping off cars to complete loading or for partial unloading and split deliveries. Much of the evidence offered by Mr. Walsh has been concerned with the enforcement or lack of enforcement of these tariff rules and exceptions with respect to freight shipped by forwarders.

Next there has been considerable testimony on the occupancy of railroad facilities by forwarders and on co-operation in freight solicitation between railroad and forwarder traffic departments. Also, each railroad traffic officer who has testified has been asked his opinion as to whether the forwarder should be regulated and as to whether, if the railroads provided complete storedoor service on l.c.l. freight, there would be any justification for the existence of the consolidator. Opinion was pretty evenly divided on the latter point but there was general agreement that if the forwarder remains in the picture he should be regulated.

Boston & Maine

Starting with the New England roads, Mr. Walsh offered in connection with the Boston & Maine the testimony of E. J. Powers, special agent of the I. C. C. Bureau of Inquiry, who had made a field investigation of the relations between that road and Acme Fast Freight, Inc. Mr. Powers said that Acme, starting in 1926 as an l.c.l. shipper of shoes and dry goods, has enjoyed a gradual growth until it is today one of the largest B. & M. shippers. A large part of the Acme business, Mr. Powers continued, was formerly handled in B. & M. l.c.l. service although some has been taken from other roads. Acme leases space in B. & M. freight houses and at East Cambridge, which Mr. Powers discussed in some detail, it pays rental for one section of Freighthouse C. This is section 9, while sections 5, 6, 7 and 8 are assigned by the B. & M. to the servicing of Acme shipments. Here the B. & M. loads and unloads freight, under its tariffs publishing a charge of 50 cents per ton; and the railroad, Mr. Powers said, takes the position that it should not charge rental for this space where its loaders work. The leased section is used by an Acme affiliate which does its own loading.

Most of the Acme freight moves under all-commodity rates and at Boston the so-called multiple-car or promiscuous-loading rule applies. This provides in effect that where a shipment above the carload minimum in weight is offered, the railroad may load that shipment in as many cars as it desires. Batteries consisting of several cars are furnished at Boston for Acme loading and are loaded by B. & M. forces according to Acme's daily layout. Here Mr. Powers cited examples of light-loading of Acme cars and agreed with Mr. Walsh's suggestion that the carrier had no jurisdiction over the loading. Later he cited in this connection protest from B. & M. traffic officers on light loading of Acme cars.

Also Acme invokes the stop-off rule, stopping cars at Worcester, Mass., Springfield and other points. These stop-off cars, Mr. Powers said, originally left Boston empty; then they were loaded with "a bundle of old rags;" but now they carry "a small package" of revenue freight. He also cited instances wherein "stop-off" cars, billed out of Boston, were actually placed originally at the stop-off point. He was informed, however, that this was due to emergency conditions.

Method of Billing "Unusual"

The method of billing Acme freight Mr. Powers called "unusual" in that Acme does it as agent for the B. & M., thereby making it difficult for the carrier to check shipments; revenue billing is not tendered to the carrier until the shipment has moved.

Mr. Powers followed certain Acme shipments made when the all-commodities tariff was restricted against freight moving to connections of participating lines, and cited instances of rebilling from Buffalo, N. Y., to Detroit, Mich., and thence from Detroit to Chicago. He also found an instance where a refrigerator car was furnished to Acme when the tariff was restricted to freight in box cars. On this point J. R. MacAnanny, assistant freight traffic manager of the B. & M. later argued that a refrigerator car might be classed as a box car and insisted that any ice in such cars furnished was only that left over from their inbound trip.

To support his testimony as to the B. & M. Mr. Powers introduced a series of exhibits among which was one designed to show that Acme cars are handled on very fast schedules. Another contained a letter which the witness said showed Mr. MacAnanny's objections to all-commodities rates on the grounds that "they and the container rates are simply being used to steal the other fellow's traffic and to break down the rate structure as a whole." Mr. Powers explained in the latter connection that Mr. MacAnanny was alive to the possibility of using all-commodities rates in combinations to defeat through rates since the B. & M. officer had queried the commission's bureau of service as to the all-commodities tariff restrictions against delivery to connections; and had been advised that such restrictions would not overcome the expressed prohibition against through rates greater than the aggregate of the intermediates. Thus the restriction requiring the unloading at Buffalo of Boston-Buffalo freight moving under the all-commodities tariffs was removed.

Also Mr. Powers found that Shippers Service, Inc., an Acme subsidiary operating in Boston-Springfield serv-

ice on a flat rate per car, loaded cars to 55,000 lb. whereas Acme cars loaded at Boston under the promiscuous loading rule averaged 16,000 lb. Finally he found "many instances" where payment of Acme freight charges to the B. & M. was delayed beyond the 96 hr. limit.

Mr. MacAnanny followed Mr. Powers and was questioned first on the costs of loading and unloading Acme freight at Boston. He gave the figures respectively as 77 cents and 50 cents a ton. The B. & M. collects 50 cents a ton and Mr. MacAnanny said they have tried to increase this charge but their competitors "won't go along." The witness called the loading arrangement with Acme a "co-operative" one and agreed that the promiscuous loading rule was to some extent the reason for the light loading of Acme cars as compared with those of Shippers Service. He added however that another factor is the heavier loading freight handled by Shippers. The practice of letting Acme do the billing, he said, was an inheritance from the time when Acme was an l.c.l. shipper.

All-Commodities Rates to Meet Container Rates

Questioned as to the origin of all-commodities rates on the B. & M. Mr. MacAnanny said they were published to meet container rates of the New York Central and admitted that, when they were offered, the B. & M. had no other shipper but Acme in mind. He still thinks that both the all-commodities rates and the container rates "are simply being used to steal the other fellow's traffic and to break down the rate structure;" and he would favor the cancellation of all-commodities rates if the container rates were also cancelled.

As for the promiscuous loading rule Mr. MacAnanny admitted that this was put in at Boston after Acme had requested it. He conceded that the combination of the stop-off privilege and promiscuous loading permits cars to leave Boston with a couple of packages; and this he called "bad railroading."

Questioned by J. R. Turney, counsel for Acme, as to the role of the forwarder in meeting truck competition the witness said the independent trucks "didn't bother us much." Nor would he agree with the Acme attorney that Rule 10 box car shipments are cheaper than all-commodities shipments. He conceded that such would be the case if a forwarder could make a fifth-class car but insisted that such "isn't the class of traffic that Acme handled." He did, however, agree to Mr. Turney's suggestion that it was easy to place batteries of cars at Boston for Acme, explaining that Acme freight there is loaded into foreign cars with home route rights.

MacAnanny Thinks Roads Should Furnish Direct Service

Asked by Mr. Walsh for his opinion as to whether merchandise traffic can be handled better by the forwarder than by the railroad itself Mr. MacAnanny said that the B. & M. has always expressed the opinion that "the railroad should furnish the service direct, but as long as our competitors have a forwarding company and we have one we are going to do everything we can to help them." He could, however, see no economic justification for the forwarder in a set-up wherein the railroad furnished complete service from door to door. In response to Thomas P. Healy, general solicitor of the New York Central, Mr. MacAnanny admitted that the B. & M. encountered truck competition but he thinks "we can take care of it in a better way than through the forwarder."

Asked by Examiner Trezise if it were his view that the forwarder service is one which should be accorded by the railroads, the witness said he didn't know as to their furnishing the forwarder service as such, but he believes that railroads should give direct service to shippers "without having resort to the middle man;" and he believes that such direct service could be given without a railroad's setting it up as a forwarding operation.

Mr. MacAnanny was followed by A. N. Payne, manager of the Boston & Maine's industrial bureau. Through Mr. Payne's testimony Mr. Walsh brought out that Acme leases space from the B. & M. at 12 cities, paying a total rental of $1,980 a year.

Boston & Albany

Returning to the stand, Mr. Powers testified regarding investigations he had made on the Boston & Albany with the assistance of I.C.C. Service Agent W. L. Barry. This road, Mr. Powers said, handled a large amount of freight for the Universal Carloading & Distributing Company and the Boston & Springfield Despatch. The Universal occupies space in B. & A. facilities at Boston, Worcester and Springfield. The situation at the latter point, where tracks are leased to Universal, Mr. Powers said, raises the question as to the application of the all-commodities tariff which carries a restriction against freight loaded at private sidings. He also found in connection with this road that Universal cars billed as one consignment were handled out of Boston on different days. Agent Barry found an instance wherein a car handled under the all-commodities tariff had been loaded at a private siding but the B. & A. claimed that a switching charge which it assessed in this instance made the handling proper. Also, the Universal has shipped out over the B. & A., on all-commodities rates, cars loaded at a Worcester industry local to the B. & M. Two local switching charges—one by the B. & M. and another by the B. & A.—were assessed on these cars.

Mr. Barry was followed by R. Van Ummersen, freight traffic manager of the Boston & Albany, who stated that his road installed all-commodities rates to meet competition but at the same time agreed that the B. & M. initiated all-commodities rates in New England to meet B. & A. container rates. Here Examiner Trezise expressed a desire "to find out who started this circle" and thought that "we will come to it later." Attorney Walsh, however, expressed the view that the examiner was "rather optimistic."

Mr. Van Ummersen gave 36.5 cents per ton as the cost to the B. & A. of loading freight at Boston. Reminded of the B. & M.'s higher costs the witness didn't question the B. & A. figures but expressed the view that "We are probably more efficient."

Van Ummersen Unsympathetic to C. & D.

Questioned as to the best method of handling merchandise freight Mr. Van Ummersen said that he personally would like to have the railroad handle it all, but "as a medium of meeting truck competition I would like to have a forwarder operate on our railroad." He is not sympathetic with collection and delivery by railroads—he prefers the forwarder but thinks the latter should be regulated.

James C. Irwin, B. & A. valuation engineer, followed Mr. Van Ummersen to testify with reference to Universal occupancy of B. & A. property. It was brought out that at one point Universal leases for $8,896 a year facilities on which annual taxes amount to $12,906.

New York, New Haven & Hartford

The commission's presentation in connection with the New York, New Haven & Hartford was opened by Attorney Rouse and again Messrs. Powers and Barry were field investigators. This road, Mr. Powers testified, han-

dles a large amount of freight for the National Carloading Corporation, and some for Universal, Acme and Stone's Express, Inc. In 1935 it received 3,775 cars from National.

The New Haven's loading cost at Boston on National freight ranges from 44 cents to 45 cents a ton and unloading from 55 to 56 cents. Like the other roads it collects 50 cents a ton.

Mr. Barry investigated the Universal's arrangements with the New Haven at Hartford, Conn. He found that Buffalo freight, formerly loaded there, is now trucked to Springfield for movement over the Boston & Albany. He also found that on practically all bills of lading for Universal shipments out of Hartford there was the notation "50-ft. carload, two 36-ft. cars furnished." Yet he found no evidence of a Universal standing order for 50-ft. cars. Thus he asserted that "the carrier had assessed freight charges on outbound Universal traffic on the basis of the existence of a supposed car order which none of the carrier's representatives had knowledge of."

Mr. Barry next explained Acme's occupation of New Haven facilities at New Haven, Conn., and Providence, R. I.; at the latter point it pays no rent for 2,240 sq. ft. of platform space adjacent to 396 sq. ft. of office space which it leases. At Bridgeport, Conn., Mr. Powers said, Acme uses a section of the New Haven's Whiting Street freight house where it receives freight subsequently trucked out by over-the-road truckers, and on which the New Haven receives no haul. The witness, when questioned by Mr. Turney, was unaware of an arrangement whereby this freight was trucked to New Haven for loading into cars. When the witness suggested that New Haven auditors have no way of checking freight billed by forwarders Mr. Turney suggested, and the witness agreed, that the situation of auditors is the same with respect to all carload billings; unless they actually inspect the lading, and they seldom do, the questioner added, they can't tell whether a car which was billed as scrap iron had been loaded with "automobiles or aeroplanes or gray tom cats."

Vice-president F. J. Wall of the New Haven followed Mr. Barry. He agreed, in response to Mr. Walsh's opening questions, that the New Haven has encouraged forwarder operations by rate publication and other tariff provisions such as all-commodities rates and the multiple-loading rule. The latter, however, Mr. Wall said, was first published years ago with respect to ex-water freight. Also the witness agreed that the loading at Boston is directed by the forwarders.

Wall Says Roads Should Give Complete Service

Mr. Wall thinks that the forwarder should be regulated and he also believes that the railroads should render complete door-to-door service. Asked by Mr. Walsh if the latter set-up would eliminate the forwarder the witness first demurred with, "That takes in a lot of latitude," but finally said that the rate structure would determine whether or not a place for the forwarder would remain in the picture. Mr. Wall did however agree with R. E. Quirk, counsel for National, that the forwarders have held much l.c.l. traffic on the rails. Without the forwarder, Mr. Walsh added, the railroads would have had no way to meet competition.

Before proceeding to consider the findings of investigations on the Delaware, Lackawanna & Western, Mr. Walsh called Charles M. Young, rate specialist of the I.C.C. Bureau of Traffic, who gave his interpretation of various rules and exceptions embodied in Lackawanna tariffs. Mr. Young's testimony was the occasion of much involved argument, particularly with reference to which tariff governed when there were conflicting provisions—the all-commodities line-haul tariff or the New York harbor lighterage tariff.

Delaware, Lackawanna & Western

Mr. Powers followed Mr. Young and testified first that Acme in 1935 shipped 15,786 carloads out of New York over the Lackawanna; also some l.c.l., and in the same year it received 3,540 carloads there. As do all railroads, the Lackawanna loads and unloads carload freight at New York and for this reason it takes the position that it shouldn't charge Acme for space in which the railroad loaders work.

Batteries of cars are furnished for Acme loading at New York and Mr. Powers found in Lackawanna files various letters which appeared to him to show that Acme shipped "ridiculously light loads to be moving at carload rates." Testifying as to shipments from three pier stations the witness cited examples to show how the carload minimum for consignments was reached only by combining the tonnage of the three points.

Acme also invoked the stop-off rule to stop its cars at Newark, N. J., and, Mr. Powers said there were instances wherein the carload minimum was not reached until the freight loaded at Newark was related back to New York for billing. He also found that cars loaded at Hoboken, N. J., and Passaic were treated as stop-off cars from New York and that when batteries of cars were stopped off at Binghamton, N. Y., a single $6.30 stop-off charge was assessed against the battery instead of being applied to the individual cars. Binghamton, the witness explained, is an important Acme transfer station. It also developed that on occasions where there was more freight at Binghamton than could be loaded into a bona fide stop-off car the excess was loaded into a car originally placed at Binghamton and hooked up in billing as a stop-off car from Boston, New York or Philadelphia.

Mr. Powers' investigations at Buffalo revealed that Acme all-commodities cars were rebilled there over the Wabash without unloading at a time when the all-commodities tariff was restricted against such practices. Also, at Buffalo, the witness said, the Lackawanna furnished Acme with batteries of cars when there was no tariff authority to do this where freight is loaded by the shipper. Thus it appeared to the witness that "Acme not only received the use of an unwarranted number of cars but enjoyed the stop-off privilege that was prohibited by the tariff."

Undercharges Against Acme

Several of these matters, the witness said, were investigated by the Trunk Line Freight Inspection Bureau and as a result undercharges of $140,085 have been set up against Acme. Of this amount $115,142 arises from the claim that cars originated at Passaic, Newark and Jersey City, and hooked up with New York billing as stop-off cars, should pay the minimum carload rate or the l.c.l. rate, whichever made the lower total, from the points of origin. On the failure to enforce Rule 24 on Buffalo-New York shipments undercharges of $8,943 were set up while others of $16,000 arise from the failure to assess stop-off charges on individual cars stopped at Binghamton.

Mr. Powers continued to refer to exhibits which, he said, contained material indicating that Lackawanna traffic officers were active in soliciting business for Acme; that, over the protest of the Lehigh Valley, the road installed an overnight New York-Buffalo service after a joint study with Acme. He also stated that at New York stations where it handles Acme freight the

Lackawanna has "more than doubled" its supervisory force.

Under cross-examination by J. L. Seager, assistant general counsel of the Lackawanna, the witness admitted that the instances of light-loading which he cited were "horrible examples"—he made no attempt to get the average and he knows there has been a "great improvement." Also, Mr. Seager brought out, in connection with the original placing at Newark of a stop-off car, that the operation contemplated by the tariff was more expensive. There was much discussion as to how this practice benefited Acme but the witness could think of none except perhaps faster service. Also Mr. Powers saw nothing wrong, "if it's legal," in soliciting for Acme business that couldn't be got any other way.

When the cross-examination got around to the tariff provision under which the battery of cars is furnished, it was the witness' opinion that the carrier must be tendered more than the carload minimum at New York in order to have tariff authority for setting up the battery. Mr. Turney insisted that Acme "wasn't one thin dime ahead" because of the practice of originating the Newark stop-off car at Newark, and Mr. Powers agreed with this questioner that it was cheaper to place the car originally at Newark than "to go through this asininity" of hauling it over to New York and back. Examiner Trezise, however, brought out that if a shipment of "1,000 lb. of boots and saddles" originated at Newark it would move at l.c.l. rates, whereas if there could be invoked "the fiction" that this car started at New York, then the Newark shipment could be hooked up to a New York consignment moving at carload rates. But Mr. Turney drew from the witness the admission that Acme enjoyed no rate advantage nor any service advantage of which Mr. Powers was aware.

J. J. Byrne, vice-president in charge of traffic for the Lackawanna, was the next witness. He said at the outset that it was the desire of his road to encourage the growth of Acme and that the Lackawanna has cooperated with the forwarder "in our own interests" to meet the competition of other forwarders and of trucks. Lackawanna solicitors, he said, sought for Acme only such business as they couldn't get for the railroad. There are no joint calls on prospects, he insisted. Mr. Byrne admitted, however, that the Lackawanna has not "exercised the same solicitation" as it does toward Acme for the National Carloading Corporation which has a small operation on its line at Syracuse. The witness also conceded that Acme was the only shipper his road had in mind when it published the all-commodities rates, which, he added, had their origin in New York Central container rates.

Byrne Prefers Forwarder to Storedoor Service

Asked by Mr. Walsh for his opinion as to the best method of handling merchandise freight Mr. Byrne said he felt that Acme had "done a job" in holding business for the Lackawanna. He thinks the proposal to reduce l.c.l. rates and give storedoor service is "not an attractive proposition;" he believes that the Lackawanna would "prefer to string along" with the forwarder. He is, however, of the opinion that the forwarder should be regulated.

Mr. Turney, in questioning Mr. Byrne, brought out that the Lackawanna gets from Acme freight 2 cents per ton-mile whereas from l.c.l. handled for its own account the railroad gets about 1.5 cents.

Asked by Examiner Trezise if facilities afforded the forwarder might not be limited, Mr. Byrne said he would be reluctant "to hamper" the consolidating companies in their work of helping railroads meet competition. He had not, however, he next agreed with the examiner, heard of any forwarders "going to the wall." The witness then reminded his questioner that railroads didn't fix the present status of the forwarder—that was done by the I. C. C. and the courts. Whereupon Examiner Trezise presumed that the courts in fixing such status "never dreamed" of "batteries of cars" and "empty cars." Here Mr. Turney called attention to the fact that Acme in another proceeding was taking the position that the I. C. C. had jurisdiction over its operations.

The next witness—E. B. Moffatt, general superintendent of the Lackawanna—was questioned at length regarding the practice of placing originally at Newark the car hooked up with New York billing as a stop-off car. He called it "carrier necessity" and thought it was "asinine" to originate this car at New York with 100 lb. or so of freight in it. After brief testimony from F. W. Rogers, general freight agent at Buffalo, Mr. Walsh closed his presentation in connection with the Lackawanna.

Delaware & Hudson

Mr. Rouse was the I. C. C. witness in connection with investigations made on the Delaware & Hudson. The presentation with reference to this road was brief, no representatives of the carrier being called. Mr. Rouse cited instances of light loading of Acme cars and also of diversion of freight from territory local to the New York Central.

New York Central

R. B. Sturm, special agent of the I.C.C. Bureau of Inquiry, was the first witness on the tie-up of the New York Central with the Universal Carloading & Distributing Company. He opened with an explanation of the practice at Cleveland, Ohio, where the N. Y. C. furnishes Universal with two 40-ft. box cars in lieu of one 50-ft. car ordered. Universal has a standing order for these 50-ft. cars and always 40-ft. cars are furnished, the witness said. He continued to refer to his investigations which showed that 50-ft. cars were available at Cleveland and thus, he asserted, that there was no "carrier convenience" in the furnishing of two 40-ft. cars. This practice of securing two cars, Mr. Sturm said, protected Universal against paying the carload minimum on two cars when one was stopped short of destination for "partial unloading." In all but two instances of those he checked, the stop-off car was completely unloaded at the stop-off point—Newark. The witness found substantially the same practice in vogue on the Nickel Plate at Cleveland, that road making no effort to secure 50-ft. cars, and the local National representative "said he didn't want 50-ft. cars" for the service.

Following Mr. Sturm, Mr. Rouse testified concerning investigations he had made at New York. There, from the files of F. E. Williamson, president of the New York Central, the witness learned that Universal furnishes its financial statements, and on occasion F. N. Melius, president of the United States Freight Company, furnishes special financial reports. Also, he found "a large number" of reports on operations of United States Freight Company and its subsidiaries.

Mr. Rouse next presented an exhibit, the outstanding feature of which, he said, was its showing of the increase in recent years of all-commodities cars on the N. Y. C. and the decrease in container cars. Universal traffic in box cars nearly doubled between 1933 and 1935. He found that at one time consideration was given a plan whereby N. Y. C. and Universal solicitors would make joint calls but this policy was not adopted. It had been suggested following reports that solicitors of the Pennsylvania had been making joint calls with rep-

resentatives of the National Freight Company, the former Pennroad affiliate later merged into National Carloading Corporation, now a Van Sweringen affiliate. The witness did find, however, that where N. Y. C. solicitors were unable to get business they furnished to their superiors a list of shippers who might use Universal. Also that Universal furnished lists showing traffic which it had obtained for N. Y. C. carload service. These latter were checked by N. Y. C. officers to see whether or not efforts claimed to have been made by Universal actually did get the business involved. Finally, Universal reported on certain passenger business which it had obtained for the N. Y. C.

Protests to N. Y. C. Against Acts of Universal

Mr. Rouse claimed that the Universal aided the New York Central in the latter's bargaining with Western connections at Chicago for the securing of unrouted eastbound business; that the Universal diverted traffic from the Northern Pacific when the latter elected to sponsor another forwarder in the Northwest; and that it diverted New Orleans business from the Illinois Central. Protests against the latter two actions were lodged with President Williamson of the New York Central.

Mr. Rouse also found evidence that consideration had been given by the N. Y. C. to the placing of restrictions in the all-commodities tariffs but that Mr. Melius said that the proposals would interfere with Universal's operations. Among these proposals, which were dropped, was one which would place restrictions on the size of car that might be ordered for all-commodities loading. Mr. Rouse brought out in this connection that Eastern railroads owned only four hundred 50-ft. cars, the size usually ordered by forwarders when they have been supplied two smaller ones.

The witness found that there have been in the past, proposals for greater co-operation between New York Central and Universal. In 1932 Mr. Melius suggested that Universal might be expanded to provide a nation-wide l.c.l. service for all railroads and in 1935 President Williamson of the N. Y. C. wrote to Daniel Willard, president of the Baltimore & Ohio, asking if the latter would consider becoming financially interested in a forwarding agency. Nothing came of these matters and later Mr. Melius outlined a plan for the consolidation of certain N. Y. C. and Universal operations. This precipitated a discussion as to the advisability of Universal's becoming a public carrier and it was decided that its present status is "more flexible" for meeting competition.

Universal Trucks Large Volume of Freight

Mr. Rouse said that Universal ships a large amount of freight in line-haul trucks, particularly in Central Freight Association Territory. There over 30 per cent of its tonnage is handled by over-the-road trucks. He cited an instance wherein the New York Central, having taken a position in opposition to the granting of a certificate to an Indiana trucker, later became apprehensive lest it be embarrassed by the revelation that the applicant truck line handled Universal business. Following this Mr. Melius agreed to notify the N. Y. C. whenever Universal was interested in a particular truck application.

The extension of Universal's truck operations into the territories of railroads other than the N. Y. C. has brought protests to the latter—the earliest that Mr. Rouse found was in 1931 to P. E. Crowley, former N. Y. C. president, from Mr. Williamson when the latter was president of the Chicago, Burlington & Quincy. Others have come to Mr. Williamson from F. W. Sargent, president of the Chicago & North Western, and Fitzgerald Hall, president of the Nashville, Chattanooga & St. Louis.

Universal Traffic Taken from B. & O.

Asked about relations of Universal with the Baltimore & Ohio, Mr. Rouse revealed that the forwarder had within the past few months virtually eliminated that road from its routing because of the alinement of the B. & O. with Keeshin Transcontinental Freight Lines. The only remaining Universal operations on the B. & O. are at Baltimore, Md., and Pittsburgh, Pa., where Universal leases had a six months' cancellation clause. Notice of cancellation of leases at these points has been given effective November 15. Here Mr. Rouse read into the record a letter from E. W. Scheer, president of the Reading, to Mr. Williamson. It related to the new routing of Universal cars diverted from the B. & O. Mr. Scheer pointed out that had a route different from the one selected been specified not only would the Reading get a better division but the New York Central itself would also. The route selected, according to Mr. Rouse's understanding, was chosen to give the Lehigh Valley a haul, thereby compensating it for the loss of certain eastbound Universal traffic recently diverted to the New York Central.

This letter was again brought up during the subsequent testimony of C. J. Brister, vice-president in charge of freight traffic of the New York Central, who was questioned concerning Mr. Scheer's reference to the fact that he had been advised of the diversion of Universal cars from the B. & O. by E. D. Hilleary, vice-president in charge of traffic of the Reading, who was passing on to his president information received from Mr. Brister. Mr. Brister said in response to questioning by Mr. Healy that he has never endeavored to control Universal routing; that he does not consider he would have any right to do so; and that in the instance referred to by Mr. Scheer he was merely the medium through which the information was passed on to Mr. Hilleary. Mr. Brister continued in response to Mr. Walsh to explain that anything which affects Universal affects the N. Y. C. because of the volume of the former's freight and thus he quite naturally discussed the B. & O.-Keeshin tie-up with Mr. Melius, who advised that the B. & O.'s new affiliation would necessitate Mr. Melius' doing business "with somebody else who would be 100 per cent Universal."

Further testimony of Mr. Rouse regarding the N. Y. C. concerned arrangements for the leasing of railroad property to the Universal, and also he brought out that letters in Mr. Williamson's files revealed that at one time J. M. Davis, president of the Lackawanna, had suggested a conference between Universal and Acme for the purpose of settling certain competitive matters. In this connection President Melius of Universal, to whom the matter was referred, expressed a willingness to confer with T. A. Bradley, president of Acme, but Mr. Rouse found nothing to indicate that such a meeting was ever held. The witness said that Acme, which occupies no N. Y. C. facilities, had in 1933 sought space in New York and Cleveland. Mr. Melius opposed the Central's executing leases with Acme and the matter was dropped.

Mr. Rouse was followed by T. Leo Haden, examiner of the I.C.C. Bureau of Formal Cases, who testified concerning Universal operations at certain N. Y. C. New York stations. Next Delbert Garman. I.C.C. serv-

ent, told of Universal operations on the Central e, Pa., and Buffalo, N. Y. At Erie, he said, much it handled by Universal through facilities leased the N. Y. C. is truck traffic. At Buffalo, he continued, much switching is done for Universal, with no record of switching charges paid by the forwarder. Also, at that point, the Universal orders 46 ft. cars and invariably two smaller cars are furnished.

Two freight agents of N. Y. C. New York stations—F. E. Stoughton and C. E. York—next testified as to Universal operations at facilities under their jurisdiction. One denied that there was any difference between the manner of loading Universal freight and that of handling other carload business, while the other said that where Universal cars were not loaded to the minimum weight the forwarder was advised that it must meet the requirements in this respect. Chester A. Oakes, land and tax agent for the New York Central, followed with testimony regarding leases which had been executed with Universal for the latter's use of N. Y. C. facilities. This witness also testified regarding the placing of flat cars at Buffalo for use as loading platforms without the imposition of demurrage charges. He said the cars so placed were in need of repair; also he was advised that demurrage rules did not apply and that the situation should be covered by a lease, which he prepared.

Finds Forwarder Effective in Meeting Competition

Vice-president Brister of the New York Central was the next witness. The Central, he said, believed that the use of a forwarding company was a profitable and effective method of meeting the competition of trucks. At first, he said, the container rates were considered by the N. Y. C. as a desirable method of meeting the highway competition but his road published all-commodities rates to meet the competition of other Eastern roads. It was to meet the competition of the container rates that the all-commodities rates were first published, the witness agreed. The general use of all-commodities rates, Mr. Brister continued, has been partly responsible for the decline in use of merchandise containers on the N. Y. C. Much of this merchandise container equipment, it was next brought out, is now idle although there is still a large demand for containers used in shipments of bulk freight, such as cement, crushed stone, brick, etc. Later Mr. Brister, in response to Mr. Healy, said that the Central was using merchandise-type containers extensively in lieu of box cars in its own l.c.l. operations. Referring to Universal Mr. Brister said that it has a specialized organization, and the N. Y. C. could not accomplish what the forwarder has done. He compared the forwarder to the Railway Express Agency but would not admit to Mr. Walsh that Universal has taken business formerly moving by express.

Mr. Brister does not consider it essential for a railroad to render collection and delivery service. Universal, he added, provides such service only when forced by competition to do so. He does not believe that storedoor service by railroads would be effective in meeting truck competition. On short hauls, up to 150 mi., he does not think railroads can compete with trucks. To cover this situation, he said, railroads might well have truck lines of their own but on long-haul traffic he regards the forwarder as better equipped to meet the highway competition. As to storedoor service on the New York Central, Mr. Brister said his road did not follow when such service was first introduced in the East because it regarded the move as one of throwing money away. It estimated that c. & d. would cost it $4,000,000 a year and thus their plan had been to reduce all-commodities rates where necessary to meet c. & d. competition and hold Universal's business.

Mr. Brister was unfamiliar with any financial tie-up—except "what he read in the papers"—between the Central and Universal when it was brought out by Mr. Walsh that some Universal officers are former N.Y.C. employees. The witness did admit, however, that the freight solicitors of the two companies co-operate, as the N.Y.C. would co-operate with any shipper. Also, he thinks that perhaps federal regulation of forwarders would be desirable.

Brister Sees Co-ordination in Rail-Forwarder Set-up

Questioned by Mr. Healy, Mr. Brister said that the all-commodities rates had been established between centers where truck competition was active. These rates, he continued, enable forwarders to put traffic on the rails for long hauls and then distribute by truck to virtually all points. He called this set-up the "nearest approach we have towards complete co-ordination of rail and truck service." Mr. Brister was questioned at some length by Mr. Turney regarding truck competition for New York-Chicago business and also with respect to what Mr. Turney regarded as the similarity between Rule 10 cars and all-commodities cars. Also, Mr. Turney suggested, and the witness agreed, that the restricted use of merchandise containers was due somewhat to the fact that containers were not adopted generally by N.Y.C. connections. Another factor in the decline of the container, as brought out previously by Mr. Healy, was the container rate level prescribed by the I.C.C.

Suggesting that perhaps the witness could help the commission "in a constructive way" Examiner Trezise asked if it would not be better to reduce l.c.l. rates to meet truck competition or to reduce minimum weights and require such minimum to be loaded into each car rather than to have "these battery cars" with a small amount of freight in them. The witness replied that he has opposed general reductions in l.c.l. rates because no such blanket action can cover the situation. The resulting rates might still be too high in some sections and lower than necessary in others. Thus he prefers to handle each situation on its merits with all-commodities rates. Then, the examiner suggested, the forwarder "is a flexible instrument;" and Mr. Brister agreed, adding "it's got to be flexible."

Next Examiner Trezise asked if the forwarder had "a special patent" which precluded railroads from performing the consolidating function, and the witness replied that he thought it desirable to have the forwarder with a shipper status. Asked next if the forwarder "is able to cover all of these ramifications of competition because it is not federally controlled," the witness "hadn't thought about it from that point of view." His personal opinion, Mr. Brister added, was that there might well be three or four forwarders to handle all l.c.l. for Eastern roads.

The examiner continued to question the witness as to whether or not all-commodities rates are compensatory and Mr. Brister said he has never looked to tonnage at the expense of net, and thus he has never authorized the installation of a non-compensatory rate. Examiner Trezise continued his questions along this line asking finally if there is a limit beyond which Mr. Brister wouldn't go in lowering all-commodities rates. The witness reiterated his statement to the effect that he has yet to authorize a rate that isn't compensatory.

"Does that answer your question?" he added.

"Yes," replied the examiner, "you're a genius."

"No, I'm not a genius," said Mr. Brister, "but I'm careful."

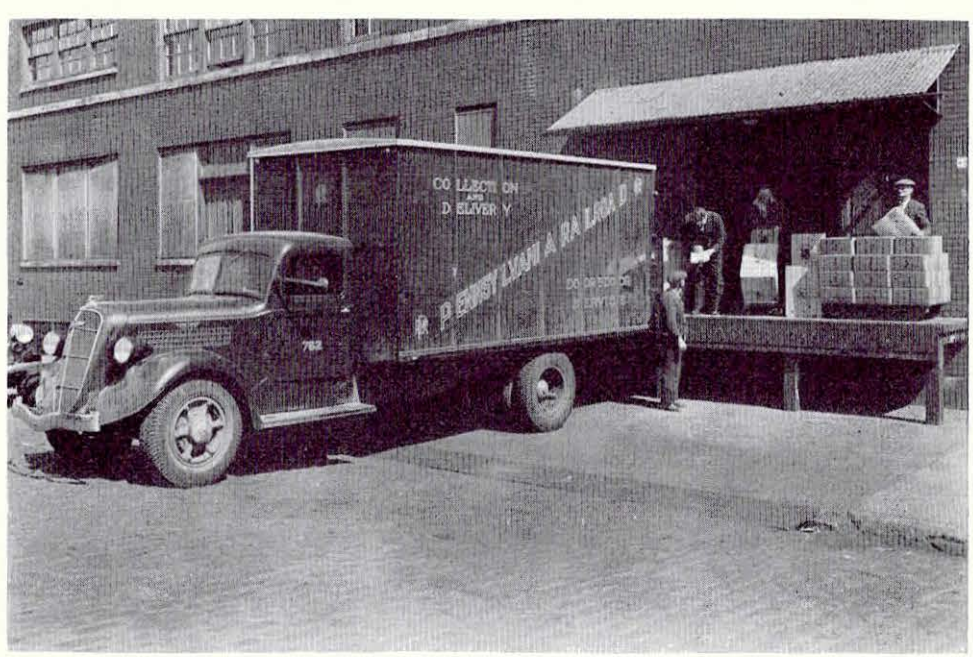
Motor Transport Section

A Fleet of Pennsylvania Pick-Up and Delivery Trucks Being Loaded

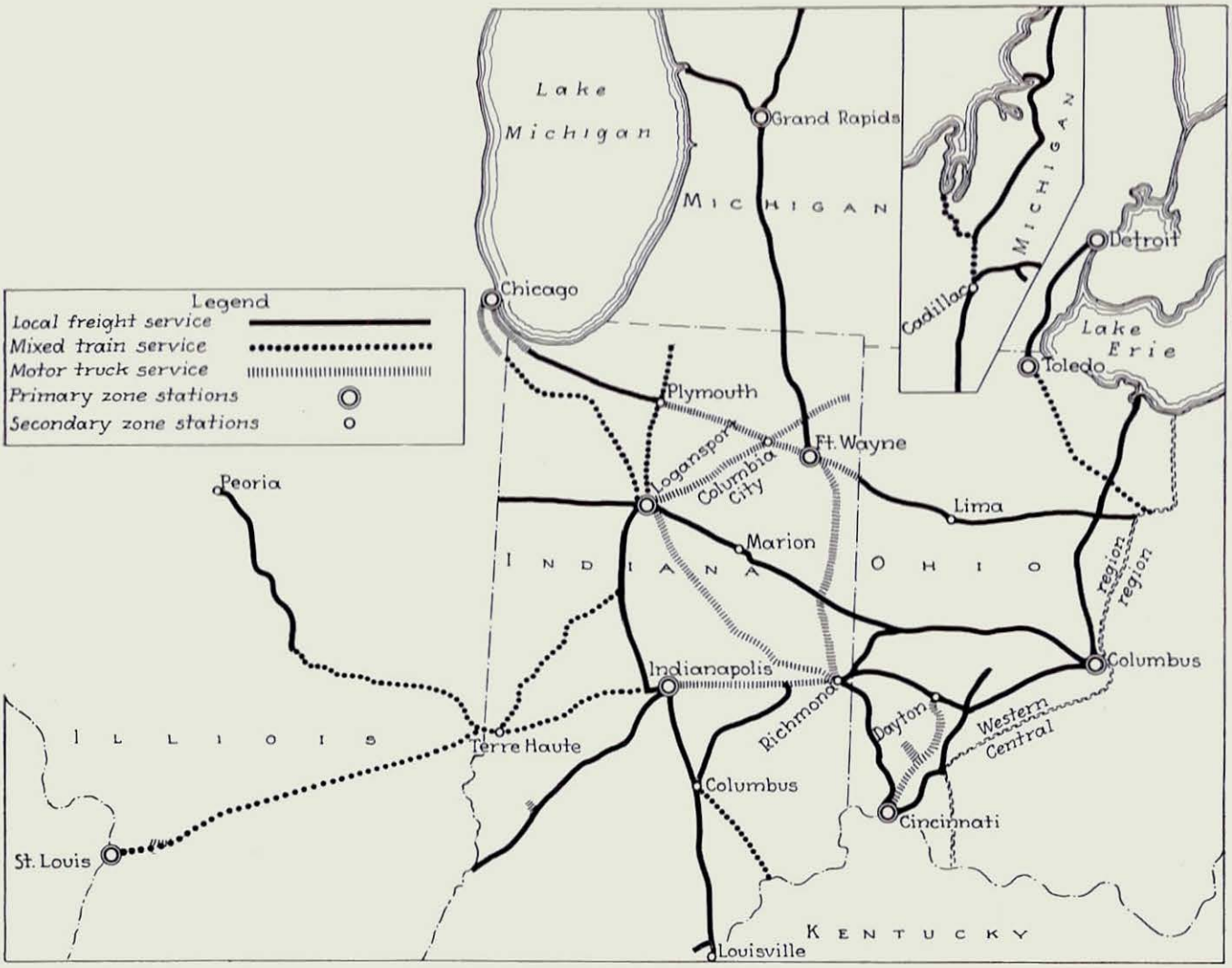
Co-ordinated Service Attracts Merchandise Traffic

Pennsylvania plans zone concentration of less-than-carload traffic—Increases speed of l.c.l. trains

IN 1935, the Pennsylvania used 20.7 per cent fewer cars for the handling of l.c.l. freight than were used in 1933, while the revenue tons of merchandise freight increased 12.8 per cent. If the aggregate tonnage available in 1935 had been loaded with the average load per car which obtained in 1933, it would have required a total of 276,970 additional cars. At the same time, station expenses increased only 8.5 per cent and a large portion of this increase was attributable to a 13.5 per cent increase in carload freight han-



Motor Truck Flexibility, Where Such Transportation Is Economic, Aids the Pennsylvania's Prompt Handling of Merchandise Traffic



How Merchandise Is Handled on the Pennsylvania. Fig 1. The Western Region

dled. Results thus far obtained this year point to a continuation of this improvement during 1936.

These results were brought about by a comprehensive and system-wide study of methods that would lead to a more efficient handling of merchandise freight from the standpoints of railway operation and of shippers' and receivers' needs. Meanwhile, the greater flexibility of the motor truck and its adaptability to certain forms of service were also studied carefully, and made to fit in with the railway's needs wherever efficiency so dictated. This adaptation is proceeding rapidly.

Adapting Motor Trucks

The Pennsylvania inaugurated line-haul, station-to-station trucking as long ago as 1923. In the ensuing 13 years, and particularly during the latter part of this period, such operations have been expanded materially until today the Pennsylvania is contracting for the operation of 80 such routes, covering 3,600 route miles and 7,000 truck miles daily. Approximately 900 stations are thus served. Fourteen trucking contractors—seven of them Pennsylvania affiliates—are employed in this work and they utilize 77 trucks, 20 tractors and 23 trailers exclusively in railway service. The estimated economy from this set-up, as compared with the operation of local train service, is $825,000 a year. Also, it eliminates interference of local with through trains in heavy-traffic areas.

Line-haul trucks in New Jersey, Maryland, Delaware and Virginia perform pick-up and delivery service as well, thereby bringing economies in local drayage costs, since this system eliminates the unloading of freight at station platforms.

The Zone Concentration Plan

With the complete development of its "zone concentration" plan, the Pennsylvania visualizes a set-up whereby eventually there will be established on its lines approximately 75 centers from which trucking routes will radiate. With such trucking arrangements and co-ordinated train schedules between the concentration centers, it will be possible to provide an l.c.l. service that will afford a maximum of third morning delivery between all points on the Pennsylvania; and second and first day delivery between many other points. Already overnight delivery is available on l.c.l. moving between many points 400 miles apart.

The zone concentration plan is an arrangement under which one or more suitable station facilities, conveniently located, are selected to assemble all l.c.l. in a particular district, the freight being handled to and from outlying facilities by motor truck. This substitutes motor truck movement for terminal rail switching service and makes earlier deliveries and later closing hours for the receipt of freight economically possible. At the same time, the concentrated aggregate volume of traffic results in a greater utilization of car capacity, a greater range of direct distribution of traffic, improved transit time and,

in many instances, the complete elimination of transfer handling enroute. Also with the reduced handling, there is less likelihood of loss and damage. Thus, while pick-up and delivery is in itself an added cost, this cost is offset to some extent by benefits accruing from the zone concentration plan.

Among the points at which the zone concentration plan has thus far been established are eight major ones as follows:

New York and Brooklyn District: The zone station is Desbrosses street station, Manhattan. L.c.l. freight is trucked between this station and seven other Manhattan and Brooklyn stations.

Philadelphia District: Here there are three zone stations, all in Philadelphia—Broad and Washington avenue station, which handles all inbound l.c.l.; Federal street station, which handles outbound; and Kensington station, where freight to and from New York and New England territory is concentrated. Freight is trucked between these stations and 20 other stations in Philadelphia; and from Camden, N. J.; and to and from six line-haul station-to-station trucking routes, radiating from Philadelphia to Burlington, N. J., Chester, Pa., West Chester, Torresdale, Whitford and Oaks.

Baltimore District: The zone station is President station, Baltimore. Trucking is performed between seven other Baltimore stations and also between line-haul truck routes to Aberdeen, Md., and to New Freedom, Pa.

Pittsburgh District: The zone station is Eleventh Street freight station, and trucking is performed between four other Pittsburgh stations, and one in East Liberty, Pa.; also for line-haul truck routes to Economy, Pa., Verona, East Pittsburgh, Washington, Burgettstown and Elrama.

Cleveland District: The zone station is Davenport Street station and trucking is performed between it and five other Cleveland stations.

Chicago District: The zone station is Polk Street station, with trucking to Englewood, Ill., Hegewisch, Washington Heights, West Pullman, Riverdale, Dolton and South Chicago; East Chicago, Ind., Whiting, Indiana Harbor, Hammond and Gary.

Cincinnati District: The zone station is Court Street station, and trucking is performed from one other Cincinnati station (Smith street); also to and from Ivorydale, Ohio, Norwood, Carrel street and Linwood; also one line-haul truck route to Lebanon, Ohio.

East St. Louis District: East St. Louis station is the zone station, with trucking to and from off-track stations in St. Louis.

The foregoing set-up is estimated to have produced savings of approximately $600,000 per annum, although it is pointed out that the maximum potential economies will come only with an increase in l.c.l. traffic and the elimination of the optional feature from the pick-up and delivery tariffs. The latter requires the retention of many stations for the accommodation of patrons who elect to provide their own pick-up and delivery service. Pick-up and delivery, with railroad trucks performing all collection and delivery work, eliminates the need for many station facilities because of the ability to concentrate the traffic.

In this connection the Pennsylvania looks ultimately to the abandonment of outlying stations, a minimizing of the physical handling of freight, a reduction in switching service, a saving of box cars and the elimination of transfer handling of l.c.l. Since December, 1933, when

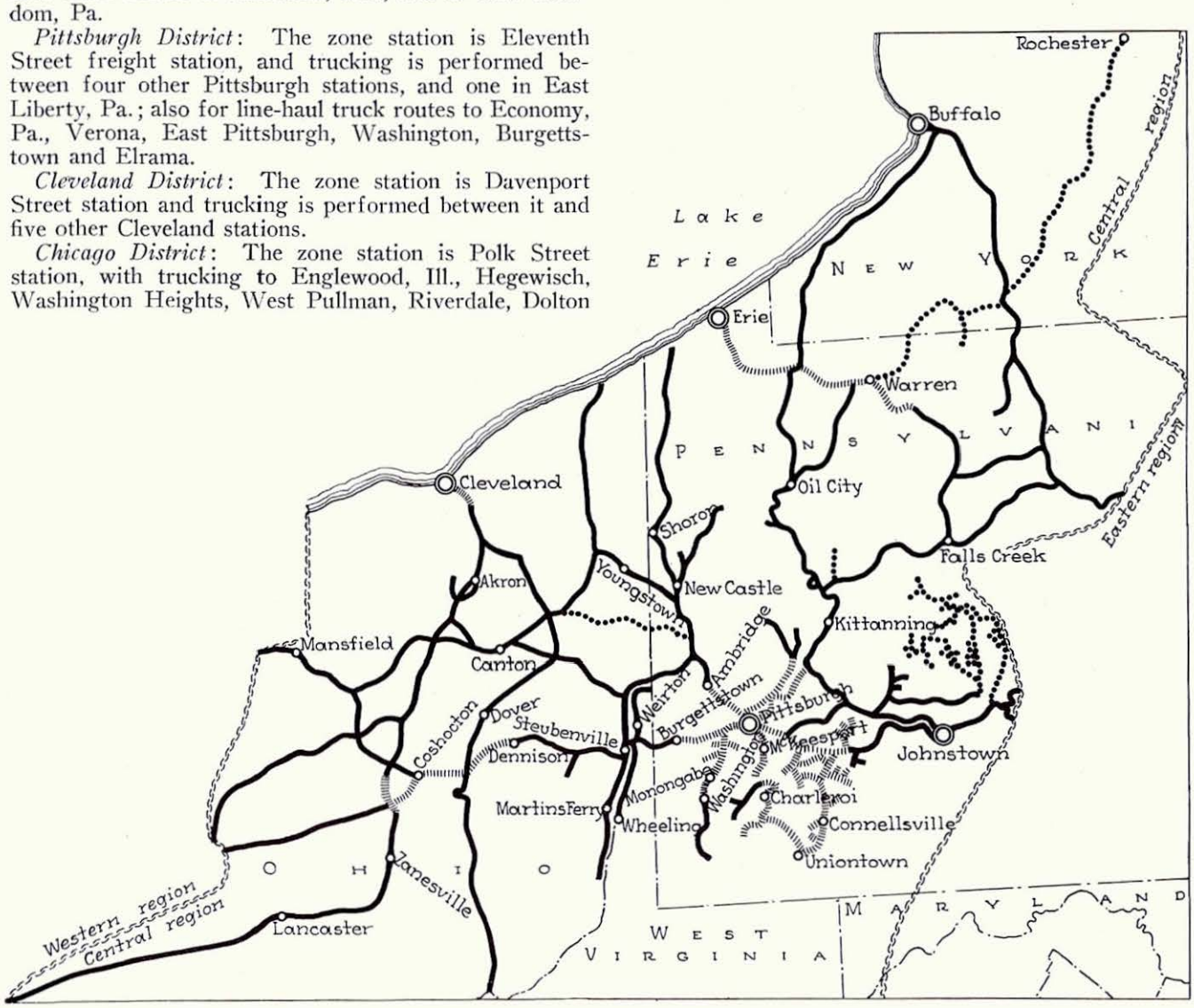


Fig. 2. The Central Region Merchandise Handling Set-Up

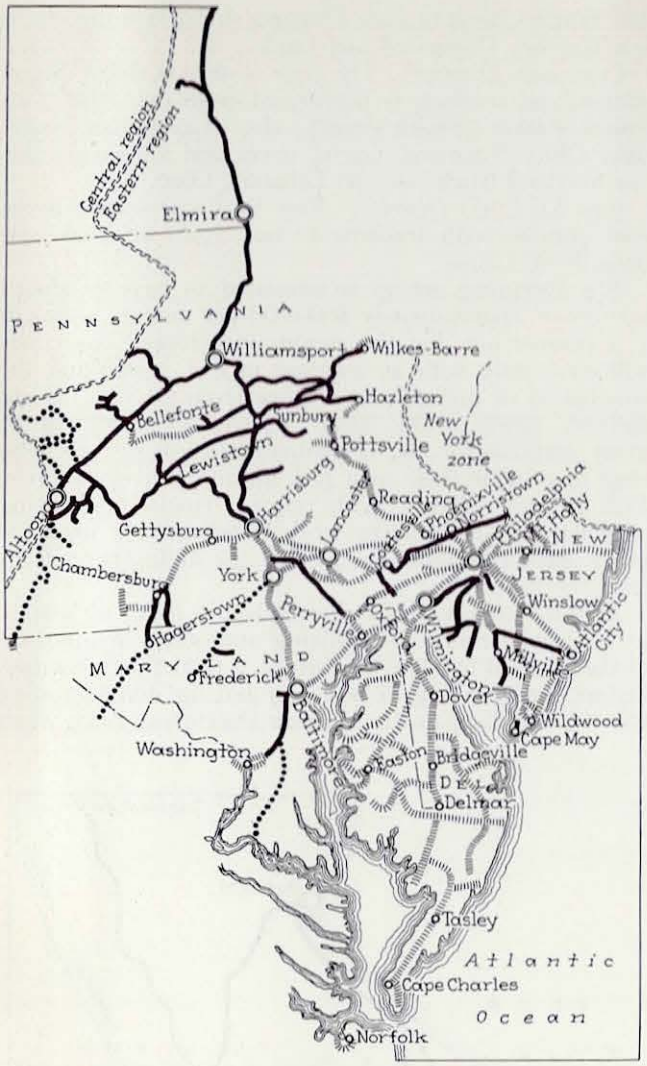


Fig. 3. The Eastern Region Merchandise Operations

this railway first established its present pick-up and delivery service, it has been able to eliminate 156 non-agency and 133 agency stations, most of which latter were converted into non-agency stations. It contracts for pick-up and delivery work with 849 trucking companies, 12 of which are Pennsylvania affiliates. The average rate paid under the contracts is 8.2 cents per 100 lb., although, as stated above, this additional cost of collection and delivery is offset by benefits accruing from zone concentration.

Faster Schedules

Existing Pennsylvania freight train schedules contemplate a maximum of third morning delivery between the most distant important points on the railroad. With the zone concentration plan, contemplating the forwarding of freight from concentration stations the same day it is received from shippers at outlying points, together with the delivery of freight on the same day it is received at the zone station, as previously stated, a maximum of third morning delivery should be available at all points on the Pennsylvania; and second and first day between all points where freight train schedules are available between concentration centers for such service.

Furthermore, it is pointed out that such concentration, while economically practicable by trucking in most instances, may, where trucking is not practical, be accomplished by co-ordinating the schedules of existing local trains—freight, passenger and mixed—and the operations at local stations with zone station operations. As stated above, surveys have indicated that there are about 75 major stations on the Pennsylvania which might be used as zone stations, covering all points between which direct l.c.l. service by car or container might be established.

Fast Merchandise Trains

While the Pennsylvania has stepped up many of its freight train services in order to give overnight service within 400-mile radii, it has exploited in this connection two fast merchandise trains—The Speed Witch, operating in both directions daily between Boston, Mass., and Baltimore, Md., and L.C.L. No. 1 and L.C.L. No. 2, operating respectively westbound and eastbound between New York, Philadelphia, and Baltimore and Altoona, Johnstown and Pittsburgh.

The southbound Speed Witch leaves Boston at 5:15 p.m. and, enroute over the New Haven, picks up merchandise cars at Providence, R. I.; New London, Conn.; New Haven and Bridgeport. From a number of these points the New Haven's trucks radiate to serve surrounding stations. At Cedar Hill yard, outside New Haven, the Speed Witch picks up cars from Springfield, Mass.; Hartford, Conn.; Waterbury; Worcester, Mass.; and Ansonia, Conn.; which come in on a connecting train originating at Springfield. The Speed Witch makes no local deliveries on the New Haven but proceeds from Cedar Hill over the Hell Gate route to Bay Ridge yard, Brooklyn, where its cars are floated to the Pennsylvania's Greenville, N. J., yards. It begins to set out cars upon leaving Greenville, making deliveries at Newark, N. J., Trenton, Philadelphia, Pa., Wilmington, Del., and Baltimore, Md. The southbound train arrives at Philadelphia at 6:25 a.m. and at Baltimore at 8:25 a.m. The distance between Boston and Baltimore is about 400 miles.

The northbound Speed Witch leaves Baltimore at 1:30 p.m. and Philadelphia at 5 p.m., and arrives in Boston at 5:15 a.m. The differing schedules were designed to meet the requirements of the communities served. The northbound train picks up cars at Philadelphia, Trenton and Newark, some cars from other points being moved locally into these cities to make the Speed Witch connection.

The Speed Witch has cut the time in transit of l.c.l. between Baltimore and Boston in half; formerly second morning delivery was the fastest schedule between these cities, and much freight required more time. Furthermore, with the zone concentration at Baltimore and Philadelphia, the smaller points get the same service on the Speed Witch as do the larger cities.

While the Speed Witch may have taken some traffic from other trains, such diversion was not a major factor in its success. It is significant that the advent of this train, designed to meet truck competition, did not permit the withdrawal of any previous trains; and the south-

Fig. 4. The New York Zone Merchandise Operations

bound Speed Witch regularly handles 110 to 130 cars—usually in two sections; northbound its average is 60 to 70 cars.

L.C.L. No. 1 is an overnight westbound train from New York, Newark, N. J., Jersey City, New Brunswick, Trenton, and Philadelphia to Altoona, Pa., Johnstown and Pittsburgh; also, a train out of Baltimore connects with it at Marysville (Pa.) yard, serving York, Pa., enroute. In addition, with connections out of Pittsburgh, this L.C.L. No. 1 affords second morning delivery between the New York-Philadelphia-Baltimore area and Toledo, Ohio, Canton, Detroit, Mich., and Ft. Wayne, Ind. This train leaves Jersey City at 6 p.m. and Philadelphia at 9 p.m. and arrives in Pittsburgh at 9:20 the following morning.

L.C.L. No. 2—the eastbound train—provides overnight service from Pittsburgh, Pittsburgh Transfer and Altoona to York and Baltimore (via connecting train) and to Philadelphia, Trenton, New Brunswick, Jersey City and New York; also, with connections, second morning delivery from the Pittsburgh-Altoona area to New England. It leaves Pittsburgh at 6:35 p.m. and arrives in Philadelphia at 6:55 and in Jersey City at 9:45 the following morning.

As a by-product of the foregoing, the territory within a 50-mi. radius of Altoona receives the benefit of overnight service from both Pittsburgh and eastern points. This is arranged by an expedited working of cars set out at Altoona by L.C.L. trains No. 1 and No. 2, such cars being worked in time for their inclusion in local trains leaving Altoona the same morning.

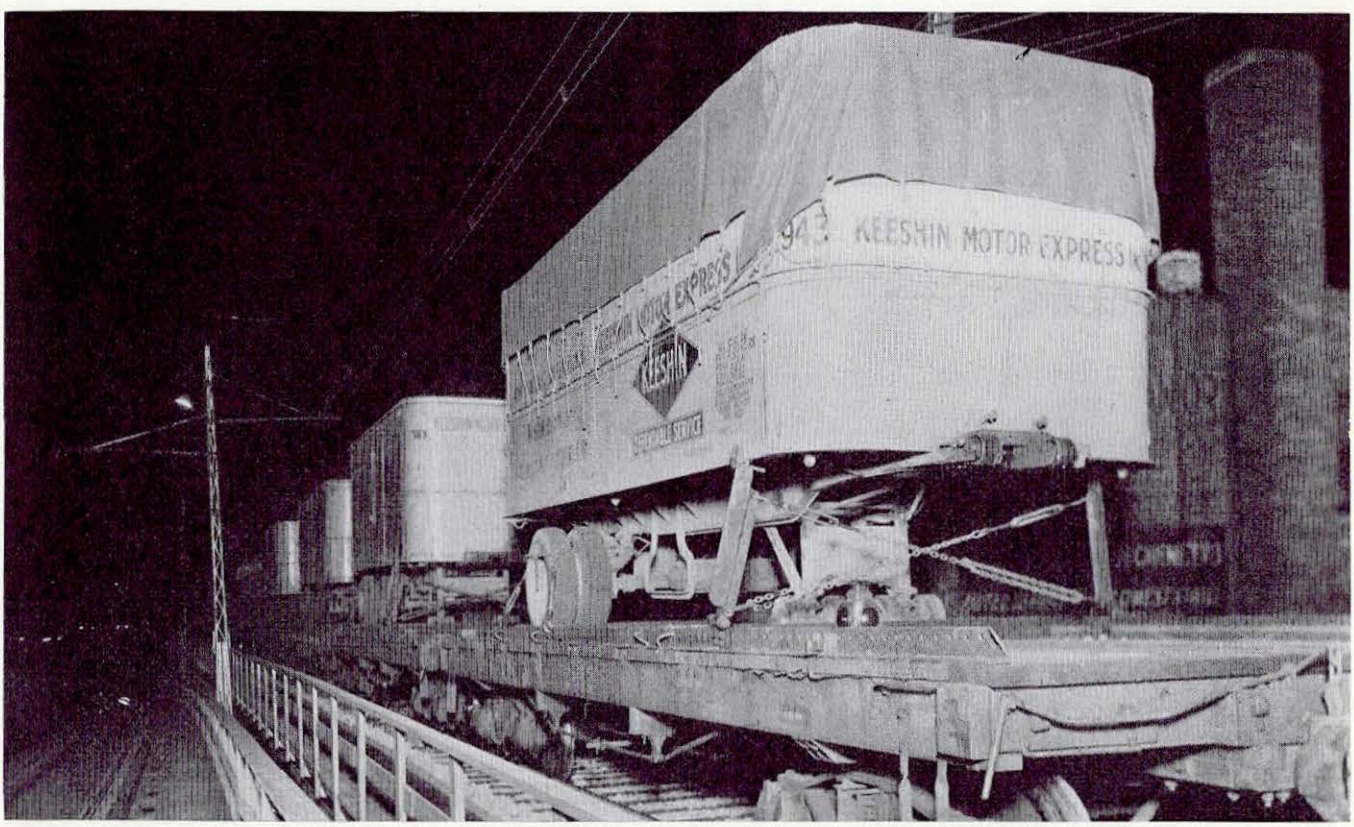
L.C.L. No. 1, upon leaving Marysville yard—when it has all connections—averages about 95 to 100 cars; it usually operates in one section. L.C.L. No. 2—the eastbound train—averages 75 to 80 cars. Both maintain schedules almost as fast as passenger trains.

Other important overnight services on the Pennsylvania, although not involving specially-promoted trains such as the above, are provided between New York and the Baltimore-Washington area and between Chicago and Louisville, Ky., Indianapolis, Ind., Richmond, Ind., Cincinnati, Ohio, Dayton, Springfield and Columbus. Some of these services are provided by mixed freight and passenger trains, others by freight trains. Also, certain areas around these cities benefit. There is over-night service out of Pittsburgh to Cleveland, Ohio, Erie, Pa., Buffalo, N. Y., Rochester and Warren, Pa.

Two solid l.c.l. trains—one in each direction—with pick-up and delivery service, provide overnight service between points on the Delmarva peninsula and New York, Baltimore, Wilmington and Philadelphia. These trains are known as CD 1 and CD 2. Cars are made up at Philadelphia, Baltimore and Wilmington for zone stations at Clayton, Del., Dover, Delmar and Salisbury, Md. From these stations, trucks radiate on 19 different routes to pick up and deliver throughout Delmarva territory. Northbound cars are made up at these zone concentration stations for New York, Baltimore, Wilmington and Philadelphia. CD 1 and CD 2 operate between Wilmington and the zone stations listed above; connecting trains handle the New York, Philadelphia and Baltimore cars to and from Wilmington.

North Shore Resumes Truck-Ferry Service

ON October 5, the Keeshin Motor Express Company completed arrangements with the Chicago North Shore & Milwaukee for the establishing of a co-ordinated rail-truck service between Chicago and Milwaukee. Under this arrangement, trucks loaded by



Highway Equipment Loaded on Flat Cars Gets Prompt Movement Between Chicago and Milwaukee

the Keeshin company in Chicago and Milwaukee and moving between the two cities will be handled on North Shore Line flat cars by the fast overnight freight service operated by the electric line. Two North Shore Line freight stations have been set up as points of interchange between the rail and truck lines. Northbound shipments from Chicago will be loaded at Montrose avenue, and southbound shipments from Milwaukee at Harrison Street station.

The North Shore Line was one of the first to inaugurate co-ordinated rail-truck operation, establishing it as a service to shippers in April, 1932. However, because of certain rulings of the Wisconsin commission, the service had to be abandoned in 1934, at which time as many as 700 highway units per month were being handled on C. N. S. & M. flat cars.

As early as 1929, the railway adopted a plan whereby it made its highway equipment available to shippers for loading. The trucks were then put on flat cars for movement between Chicago, Racine, Wis., and Milwaukee. As an outgrowth of this service, the plan was broadened in scope to permit of the handling of highway equipment belonging to trucking companies or shippers.

The plan had been in successful operation for more than two years when the Wisconsin commission ruled that, as soon as the trailers from Chicago were unloaded at Milwaukee, they ceased to be interstate shipments, and a special permit was required to handle them in collection and delivery service. Theoretically, it was still possible for the trucking companies and shippers to procure such permits. Actually, the expense of procuring such a permit, plus the necessity of facing the combined opposition of the Milwaukee drayage companies, made the task impracticable, and the trucking companies and shippers resorted to the highways again.

Last month, however, the Wisconsin commission reversed its decision, and the arrangement was renewed. The tariff provides for the handling of trucks, trailers or tractors with semi-trailers between Chicago, Racine and Milwaukee. The rates quoted are based on length, with maximum overall dimensions as follows: width, 8 ft., length, 32 ft., height, 12 ft. 6 in. For units of equipment not exceeding 18 ft. in length, the rate between Chicago, Racine and Milwaukee is $12. For units between 18 and 25 ft. long, $15, and for units from 25 to 32 ft. long $18.

I.C.C. Activities in Motor Regulation

WASHINGTON, D. C.

THE new duties imposed upon the Interstate Commerce Commission by the motor carrier act of 1935 have added enormously to the volume of its work in recent months. Because of the large number of small cases involved and because they represent a new field, with many new questions to be answered, the activities of the commission's Bureau of Motor Carriers of late have rather overshadowed the other work of the commission under its older laws pertaining mainly to railroad transportation and on many days recently the number of orders, reports, applications, hearing assignments, and other papers covering procedural steps in motor carrier cases placed on the commission's press table have greatly exceeded the number of items handled under the older part of the interstate commerce act.

Most of the cases thus far handled have dealt with applications of motor carriers for certificates and permits, of which there are a large number covering new or extended operations in addition to the thousands of applications filed under the "grandfather" clause of the law covering operations in existence prior to June 1 and July 1, 1935. While most of the reports so far made public have been proposed reports by joint boards or examiners which have not reached the stage of final action by the commission they already contain indications that the motor carrier law is to have one of the results expected of it, that of restricting the entrance of new carriers into territory already adequately served through denial or curtailment of new certificate or permit privileges. Nearly a hundred of such reports have now been issued and perhaps a fourth or a third of them recommend denials in whole or part of the applications of truck or bus operators not protected by the grandfather clause but who desire authority for new operations.

Orders recommended by examiners or joint boards become effective as orders of the commission unless exceptions are filed by parties in interest within 20 days or unless the order has been stayed or postponed by the commission. In most cases there have been such exceptions and in a few important cases, where there was no opposition, the commission has issued stay orders in order to consider the issues itself, but as to three or four of the first reports recommending the granting of the applications the commission has now issued notices to the parties that the proposed orders are in effect.

Many of the reports have been made by joint boards of representatives of state authorities, of which 175 have now been appointed by the federal commission and to which numbers of cases are being assigned daily, but in others they have been made by examiners or officials of the finance section of the motor carrier bureau. In some cases where the members of a joint board were unable to agree cases have been reassigned to examiners for reports.

In most of the cases arising on applications of motor carriers for certificates railroads have appeared in opposition, in addition to other motor carriers operating over approximately the same routes. In some cases the protestants have been able to convince the examiners or the joint boards that existing service is adequate but in others they have not. On an application of the Dixie Greyhound Lines for a certificate for a new operation between Memphis, Tenn., and Jackson, Miss., as part of a through service between Chicago and New Orleans, which was opposed by the Illinois Central, Examiner Stillwell said: "To hold that the passenger and other service rendered by them is adequate would be to disregard in a large measure the expressed preference of the public for bus service with its commonly acknowledged advantages of cheaper rates, greater flexibility of routings and schedules, and scenic highways. Moreover, while the granting of the authority may affect the revenues of the rail carriers, the precise nature and extent thereof cannot be determined on this record."

Prominent among the cases handled recently have been several of importance in which railroads were the applicants for certificates or permits or for authority for acquisitions of truck lines and these have brought out indications that the new law contains obstacles for railroads as well as for motor carriers. In one of the first cases to be decided by the commissioners, the application of the Pennsylvania Truck Lines, Inc., for authority to acquire control of the Barker Motor Freight, Inc., Division 5 of the commission declared that it was not convinced that the way to maintain for the future health-

(Continued on page 604)

Keeshin Controls Many Companies

Wide variety of transportation interests and rail-highway co-ordination feature country's largest trucking company

THE Keeshin Transcontinental Freight Lines has been in existence just over a year, as a holding company for a large number of operating motor carriers and carloading companies. During that period, its announced program of co-ordination of truck-rail operations by means of the trailer ferry operations has been made effective on the Chicago, Rock Island & Pacific between Chicago, Ill., Peoria, Moline, Rock Island and Davenport, Iowa; on the Chicago Great Western between Chicago and Minneapolis-St. Paul, and on the Chicago, North Shore & Milwaukee between Chicago, Racine, Wis., and Milwaukee, while negotiations are now pending for the installation of a similar operation on a much larger scale on the Baltimore & Ohio. Under the circumstances, the history and present holdings of this company, as revealed recently by the Interstate Commerce Commission, are of interest to the entire transportation field.

The Keeshin Transcontinental Freight Lines were incorporated under the laws of Delaware on August 12, 1935, to carry on a general forwarding, shipping, trucking, expressing, transfer, and distribution business, including the receiving, handling, shipping and forwarding of all classes of freight by land, water, or in any other manner. Its chief purpose to date has been to serve as a vehicle for the control of the capital stock of a number of companies, including operating motor carriers, non-operating motor carriers, forwarding companies, and carloading companies. At the present time, the Keeshin system operates approximately 1,400 motor vehicles and employs between 2,100 and 2,500 persons. It has terminal properties at various places, including Chicago, Ill., DeKalb and Sterling, and has a 10 year lease on a terminal being constructed by the B. & O. in New York City. It also has an option to lease for 20 years a terminal to be constructed in Chicago by the B. & O., through which it intends to bring about the complete unification of its terminal operations in that city. Present plans, contingent upon the approval of the commission, are to simplify and integrate, so far as it is practical to do so, all the operations of the system.

The original certificate of incorporation authorized the issuance of 25,000 shares of capital stock, consisting of 2,500 shares of preferred stock of a par value of $100 each, and 22,500 shares of common stock without par value. By amendment dated October 19, 1935, it was authorized to issue 30,000 shares, made up of 7,500 shares of preferred stock of a par value of $100 each, and 22,500 shares of no par value common stock. A further amendment dated March 27, 1936, reduced the total number of authorized shares to 24,500, divided into 2,000 shares of preferred stock, par value $100 each, and 22,500 shares of founders stock without par value. The founders stock is the same as the old common stock, the name merely having been changed.

At the present time there are issued and outstanding 2,000 shares of preferred stock, all of which is owned by John L. Keeshin and wife, and 13,000 shares of founders stock, of which 5,000 are owned by the Keeshins; 4,000 owned by Lehman Brothers, New York investment bankers; 500 each beneficially owned by the Atlas Corporation and the Lehman Corporation, described as corporate

The Keeshin Company Is Seeking a Number of Rail-Highway Co-ordinations Such as This

types of investment trusts, but held in the name of Lehman Brothers; and 3,000 held in the names of Harry N. Wyatt and Daniel G. Arnstein, but beneficially owned, in varying amounts, by a number of individuals and by certain trusts.

Keeshin Transcontinental Freight Lines owns directly 100 per cent of the capital stock of the following corporations:

Operating Motor Carriers

Name	*Territory Served*
Keeshin Motor Express Company (N. Y.)	New York, New Jersey and Pennsylvania
Bernd Trux (Wis.)	Illinois, Minnesota and Wisconsin
Dickens Motor Freight (Mich.)	Indiana, Kentucky, Michigan and Ohio
*Bausman Motor Express (Pa.)	New York, New Jersey and Pennsylvania
Keeshin Cartage Company (Ill.)	Chicago, Ill., area (intrastate only)
Keeshin Cartage Company (Del.)	Local cartage in various communities
Southwestern Terminal Company (N. Y.)	New York, N. Y., area (terminal service for Seatrain Lines, Inc.)
Keeshin Motor Express Company (Ill.)	Indiana, Illinois, Iowa, Missouri, Nebraska and Wisconsin

Carloading Companies

Gulf Carloading Company (N. Y.)	Alabama, Arizona, Connecticut, Florida, Louisiana, Maine, Maryland,

	Massachusetts, Mississippi, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, Tennessee, Texas, Vermont, Virginia and West Virginia.
*Gulf Carloading Company of Texas (Tex.)	Arkansas, Arizona, Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia and West Virginia.
Motorways Terminal (N. Y.)	Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia and West Virginia.
*New Orleans Freight Distributing Company (La.)	Oklahoma, Connecticut, Florida, Louisiana, Maine, Maryland, Massachusetts, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia and West Virginia.

Non-Operating Motor Carriers

Keeshin Motor Express Company (Minn.)

Keeshin Motor Express Company (Ill.), a wholly owned subsidiary of Keeshin Transcontinental Freight Lines, owns 100 per cent of the capital stock of the following corporations:

Operating Motor Carriers

Name	*Territory Served*
Keeshin Motor Express (Ind.)	Illinois, Indiana, Kentucky, Michigan and Ohio.
Scott Transportation Company (Ohio)	Illinois, Indiana, New York, Pennsylvania and Ohio

Forwarding Companies

Keeshin - Truck - Rail - Terminals (Ill.)

Keeshin Freight Forwarding Company (Ill.)

Non-Operating Motor Carrier

*National Freight Lines (Iowa)

*Applications under Section 213, Motor Carrier Act, 1935, seeking approval of the acquisition of these companies are pending before the Interstate Commerce Commission.

I.C.C. Activities in Motor Regulation

(*Continued from page 602*)

ful competition between rail and truck service is "to give the railroads free opportunity to go into the kind of truck service which is strictly competitive with, rather than auxiliary to, their rail operations," and declined to grant the authorization pending the fulfilment of certain conditions. One of these was that the Pennsylvania Railroad take steps to acquire its motor subsidiary properties directly, instead of holding them through a holding company not subject to the commission's jurisdiction, but the others were more general and indicated a possible precedent to be followed in other cases. Objecting to the Pennsylvania company acquiring operating rights of the smaller truck company in routes over which it had been operating to some extent in six states merely by purchasing them and thus making them available for a much more extensive service, the commission required that the service to be rendered by the Barker company, in the event the pertinent applications now pending for certificates under the grandfather clause are subsequently approved, be confined to service auxiliary and supplementary to that performed by the Pennsylvania Railroad in its rail operations and in territory parallel and adjacent to its rail lines. It also required that the Barker company submit a statement of its arrangements proposed for divestment by it of all alleged operating rights in connection with remaining claims embraced in the "grandfather" application. In another case, on an application by the Cleveland, Columbus & Cincinnati Highway, Inc., the examiner made a point of the control of the applicant through holding companies by the Chesapeake & Ohio, Erie, and Pere Marquette and said that the evidence submitted was insufficient to justify a finding that the purchase on the terms and conditions proposed would promote the public interest.

In other acquisition cases objection has been made by examiners to the price proposed to be paid for the business of a motor carrier on the ground that it included an amount greatly in excess of the value of the physical assets apparently to cover the value of the certificate to which the company to be acquired was entitled under the grandfather clause. In the Pennsylvania case the commissioners made the point that if the Pennsylvania acquired control of the Barker company, assuming its claims under the "grandfather clause could be established, the railroad would have a right to expand operations over a great network of routes indefinitely and create a condition of competition much more formidable to the independent truckers than that previously afforded by the truck company."

In a certificate case on application of the Missouri Pacific Transportation Company Joint Board No. 28 found that "adequate train service and additional bus facilities are available and there is now no public necessity shown by any witness for any additional service between Baton Rouge and New Orleans, La."

Among the administrative rulings issued from time to time by the Bureau of Motor Carriers of the Interstate Commerce Commission is one dated October 16 that the interstate transportation of automobiles by the so-called "caravan" method, if conducted for compensation by individuals or organizations holding themselves out to perform such a driving service, as a business and not as a casual, occasional or reciprocal transportation, is subject to the motor carrier act, 1935. It makes no difference, the bureau ruled, whether some of the vehicles are towed by other vehicles or whether all operate on their own power.

In another ruling it was held that where motor carriers seek authorization under section 213 of the act for the acquisition of the properties of others, the total number of vehicles owned, controlled, or operated by the real parties in interest to the transaction are to be counted as involved, notwithstanding title and operating rights may be held by separate legal entities. The law contains an exemption of transactions where less than 20 vehicles are "involved."

The Interstate Commerce Commission has assigned for hearing at Washington on November 19 before Division 5 that part of the proceeding of investigation recently ordered as to the hours of service of motor carrier employees which pertains to employees of motor carriers of passengers, including those engaged in special or charter operations, those engaged in operations over either regular or irregular routes, and those engaged in seasonal operations.

NEWS

N. I. T. League to Forego Hearings on Surcharges

Agrees to co-operate with railroads in the plans for seeking rate adjustment

The National Industrial Traffic League, following a special meeting of its executive committee in Chicago on October 20, will accede to the request of the railroads to forego public hearings on proposed changes in rates to supplant the emergency surcharges expiring December 31. At the same time, the league made it clear that the action was not to be construed as setting a precedent, and will not agree to the continuation of the non-hearing arrangement beyond January 1, 1937. The announcement of the league is as follows:

"In reply to the carriers' request that they be relieved temporarily of the agreement to docket for public hearing before publication of tariffs making certain changes in rates, which agreement has been in effect since 1920, the National Industrial Traffic League wishes to call attention to the fact that the present plan of docketing for hearing proposed rate changes, adopted with the commission's hearty sanction and approval, was designed to avoid litigation and suspension by full development of the facts before the tariffs were published. This plan has been quite successful, and has undoubtedly facilitated proper rate changes and curtailed the amount of litigation before the commission, and promoted the mutual interests of both carriers and shippers.

"While the carriers have declared that an emergency exists which makes it impossible to docket such proposed changes before the tariffs are published, we are by no means certain that the contemplated action will not produce exactly the reverse of what the carriers are striving for and that in the ultimate the hope for advancement of the effective dates will actually result in delay.

"In view of the carriers' representation that they are confronted with an emergency in the compilation and publication of tariffs intended to cover certain proposed changes in rates, and without approving those proposed changes or the manner of making them, the executive committee accepts the carriers' proposition that they will furnish the league advance information concerning all proposed changes in rates in lieu of public docketing and hearing, so that the league may furnish such information to its members.

"In no case does the league agree to the continuation of such relief from our mutual agreement after January 1, 1937. After that date it is understood that the railroads will return to the practice of giving public notice and hearings before publication in tariff form. This relief is without prejudice to any action that the league has taken or may take hereafter."

Railroads are now expected to file with the commission shortly a petition for relief from outstanding orders of commission to permit their proposals to be made effective.

Washington Transportation Association

Robert S. Henry, assistant to the president of the Association of American Railroads, addressed a luncheon meeting of the Washington, D. C., Transportation Association on October 15.

Warehouse Case Re-opened

On petition of the railroads the Interstate Commerce Commission has decided to reconsider its decision in the case involving warehouse practices of railroads at the port of New York and has postponed the effective date of its order to February 1, 1937. Oral argument will be heard by the commission on November 23.

Southern Expects Heavy Florida Travel

The Southern, anticipating that Florida travel this year will start exceptionally early, will on December 10 inaugurate the pre-season service of its "Florida Sunbeam." This service provides through Pullman cars and coaches operating over the Big Four, Southern and Seaboard Air Line between Chicago, Detroit, Mich., Cleveland, Ohio, Cincinnati, Chattanooga, Tenn., Atlanta, Ga., Macon, and Miami, Fla., Tampa and St. Petersburg. When the "Florida Sunbeam" enters upon regular winter schedules on January 3, the announcement says, it will be air-conditioned and will have additional room cars and other modern innovations. Florida travel last season was the best in many years and Southern passenger traffic officers see indications pointing "to a still greater volume of travel to Florida for the 1936-1937 season."

The Southern's recently-issued November timetable folder contains the innovation of a full page advertisement by the railroad showing the season's football schedules of Southern colleges. This page done in two colors is appropriately illustrated with views of football teams in action.

No Car Shortage of Any Consequence Says A.A.R.

Believes shippers can be assured of ability of railroads to meet demand

Despite the fact that the volume of freight traffic has been greater so far this year than in any corresponding period since 1931, the demand for freight cars has been met "with no actual shortages of any consequence," although the demand for certain special type of cars, in some instances, has been close to the supply, the Car Service Division of the Association of American Railroads announced on October 19.

The Car Service Division believes that the shipping public can be assured of the ability of the railroads to fill the demands for freight cars during the remainder of the year without car shortage.

Car loadings reported by the individual railroads to the association normally reach their peak sometime in the months of September and October. The loadings for the week ended on October 10, this year, totaled 820,195, which exceeded the previous week by about one thousand cars and was greater than any preceding week since November 8, 1930. It is to be expected that loadings from now until the end of the year will follow the usual seasonal downward trend to the low point usually reached at the holiday period, the association said.

"Lake navigation closes from a month to six weeks hence and the coal cars now engaged in that service will be available for general coal loading. The supply of coal and gondola cars will also be built up, as there is curtailment or cessation of construction and road building activities with the approach of cold weather. Box cars which have been used for the transportation of the 1936 grain crop to elevators and mills have been released from that service and are increasingly available for general loading."

Railroads Complain Against Truck Rates

The Union Pacific, the Western Pacific, the Denver & Rio Grande Western, and several oil companies have joined in a complaint filed with the Interstate Commerce Commission against the Lang Transportation Company, alleging that it is transporting gasoline by truck from California points to Wendover, Nev., at unreasonably low rates and furnishing storage and other accessorial services at Wendover and transporting gasoline from

Reno, Nev., to Wendover which originated in California without published tariffs. The commission is asked to issue a cease and desist order and to require the tank trucker to establish reasonable rates.

N. I. T. League Moves Offices to Washington

Offices of the National Industrial Traffic League have been moved from Chicago to Washington where they will be under the direction of E. F. Lacey, executive secretary.

Washington Railroad Enthusiasts to Visit Potomac Yard

The Washington division of the Railroad Enthusiasts, Inc., will make an inspection trip of Potomac Yard, Va., on Sunday, November 1. These are the chief classification yards between the North and the South, and there are many interesting things to be seen.

Reduction in Iron and Steel Rates Suspended

The Interstate Commerce Commission has suspended from October 21 until May 21, 1937, the operation of tariff schedules proposing to reduce rates on manufactured iron and steel articles, in carloads, from points in Alabama, Georgia, and Tennessee to Monroe and West Monroe, La., to meet water competition.

New York Railroad Club Annual Dinner

The New York Railroad Club will hold its annual dinner on Thursday evening, December 10, at the Commodore Hotel, New York. Herbert W. Wolff, senior vice-president of the American Car & Foundry Company, is general chairman of the General Committee in charge of the affair.

I. C. C. To Investigate Petroleum Rates, California To Arizona

The Interstate Commerce Commission has ordered an investigation of the rates, rules, regulations, and practices of common carriers by railroad and by motor vehicle from points of origin in California to destinations in Arizona, including the minimum charges of contract truckers. The case arises from a controversy over a reduction in rates made by the railroads to meet truck competition which was suspended by the commission.

Pennsylvania Seeks Authority to Abandon Manhattan Transfer

The Pennsylvania on October 9 applied to the New Jersey Board of Public Utility Commissioners for permission to abandon Manhattan Transfer and the Park Place station on the Hudson & Manhattan in Newark, N. J., and to make other changes affecting P. R. R. main line services between Newark and Jersey City. If the proposed changes are made, the Newark terminal for tube trains now operating between Park Place in that city and Hudson Terminal, New York, will be moved to the new station of the Pennsylvania at Raymond Plaza, Newark. Between the new station and the site of Manhattan Transfer, the tube trains would be operated over new tracks crossing the Passaic river on the new Pennsylvania lift bridge.

So far as main-line train service is concerned, the proposed changes in effect would shift Manhattan Transfer from its present site to the Newark station. Eastbound passengers desiring to go to downtown New York rather than Pennsylvania station at Thirty-third street would change to tube trains at Newark instead of at Manhattan Transfer, as at present. Newark station would also be the transfer point for westbound passengers from downtown New York.

Damages for Injuries, $75,000

The largest accident award handed down in Chicago courts for several years was returned on October 10 by a jury in the Circuit court, granting $75,000 to Edwin A. Taylor of Chanute, Kan., who two years ago was injured in a collision while employed as a fireman on the Atchison, Topeka & Santa Fe. According to the testimony, Taylor, in September, 1934, was fireman on a locomotive which collided with a passenger train near Burden, Kan. He was thrown from the cab, breaking his neck and several vertebrae. Suit was filed last year under the Federal Employees Liability Act, asking for $150,000, but the case was transferred to Chicago, the general office of the railroad. The court has set October 24 for hearing a motion for a new trial.

Carlisle, Pa., Celebrates Removal of Trains from Its Main Street

The last Pennsylvania train to operate along the main street of Carlisle, Pa., was a 15-car excursion special run on October 16 to commemorate the closing of this route along High street and the opening of Carlisle's new station at West and Penn streets. The Pennsylvania tracks had occupied High street since 1887.

The October 16 excursion train, hauled by the Pennsylvania's new streamlined steam locomotive, carried 1,500 celebrators from the old station to a point east of Carlisle where the old and new lines join, and thence over the new line into the new station. For this trip the nominal charge of 10 cents was made and the tickets were designed to permit each passenger to retain a portion as a souvenir. The souvenir portion of the ticket bears a picture of a locomotive which operated through Carlisle almost a century ago and another of the streamliner which hauled the excursion train.

To Prevent Loss and Damage

The general committee of the Freight Claim division of the Association of American Railroads is conducting a prize contest for constructive suggestions dealing with freight claim rules, freight claim handling, freight claim prevention and office efficiency methods for the purpose of developing improved practice. The prizes are: first, $25; second, $15; third, $10; and 10 prizes of $5 each. All employees in the freight claim and freight claim prevention departments of member carriers, except officers, are eligible to compete. Proposals must be in the office of the secretary of the division not later than March 1, 1937. The general committee will determine the relative merits of proposals, and will announce the awards at the 1937 annual session of the division.

Foremen Who Look But Don't See

Shop and roadway foremen who see unsafe behavior among their employees, and, because of their neglect to take action, may be classed as foremen who look at workmen but do not see them; together with employees of all classes who are guilty of "dumb stunts" are the classes addressed by the committee on education, Safety Section, A.A.R., in its circular No. S-509, which has been issued for the attention of safety departments during the month of November.

Various careless practices, such as stepping on loose ladders, walking on narrow timbers and leaning too far front when standing on a rollable barrel, are illustrated by a half-dozen pictures in the circular. Each picture is accompanied by a little lecture.

Club Meetings

The Toronto (Ont.) Railway Club will hold its next meeting on Monday evening, October 26, at the Royal York Hotel, Toronto. J. E. Teal, Chesapeake & Ohio, will speak on the economics of the transportation of coal. The address will be supplemented by sound motion pictures of scenes in the coal traffic department of the Chesapeake & Ohio.

D. J. Mullane of the Lehigh Valley was elected president of the Metropolitan Traffic Association of New York at that association's annual meeting held on October 8. Other officers elected for the coming year are: First vice-president, N. J. Edwards of the Barrett Company; second vice-president, C. H. Beard of the Illinois Central; secretary, K. Sprague of Nestles Milk Products; treasurer, V. P.

The Pennsylvania Railroad Company
AGENT'S
STUB
NOT GOOD FOR PASSAGE
CARLISLE, PA. Old Station
AND
CARLISLE, PA. New Station
Friday, October 16, 1936
Form SX 36154
Opening of New Station Carlisle, Pa., Friday, October 16, 1936
The attached coupon entitles bearer to transportation on the last passenger train to operate on High Street, and the first passenger train to enter the new station.
One Hundredth year of operation. First passenger train August 12, 1837
"Should Auld Acquaintance Be Forgot."
THE PENNSYLVANIA RAILROAD COMPANY
GOOD FOR ONE PASSAGE
BETWEEN
CARLISLE, PA. Old Station
AND
CARLISLE, PA. New Station
ON SPECIAL TRAIN
Friday, October 16, 1936
Form SX 36154

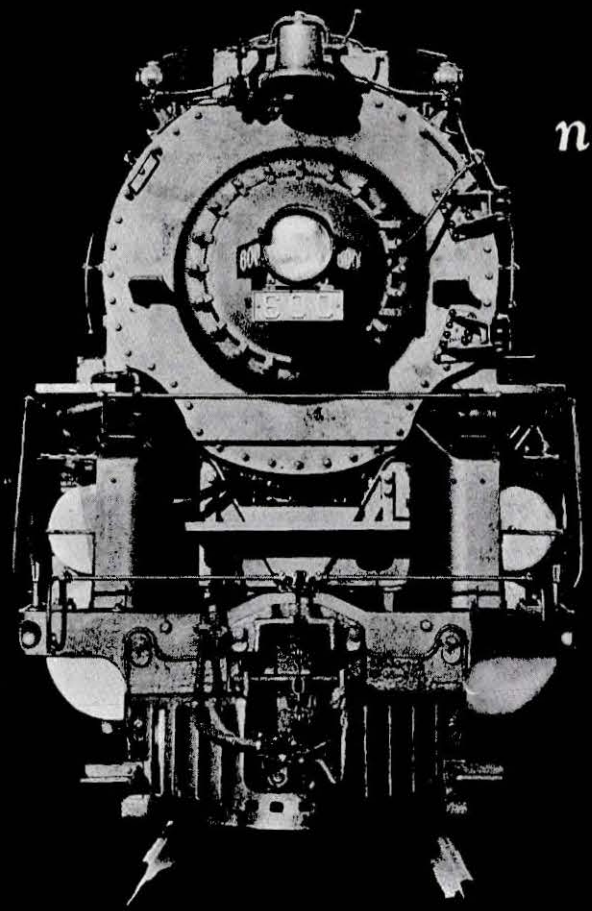
The Souvenir Ticket

Continued on next left-hand page

MODERN POWER

costs less to operate

increases net earnings



If modern power merely moved trains faster so more trains could use the rails, its purchase, in many cases, would be more than justified . . . However, in addition modern power moves bigger trains at lower ton-mile costs and also shows a surprising saving in locomotive maintenance . . . Modern Power increases railroad net earnings.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

LIMA LOCOMOTIVE WORKS INCORPORATED

Golden of the Union Bag & Paper Corporation; financial secretary, C. S. Lozier of the General Chemical Company.

P. R. R. Recognizes Brotherhood of Railway Clerks

The Pennsylvania has recognized the Brotherhood of Railway Clerks as the bargaining agency for its 21,000 clerical employees, according to an announcement made on October 20.

Recognition of the A. F. of L. affiliate abolishes two so-called company unions which had a membership of several thousand. They are the Association of Clerical Employees and the Miscellaneous Forces Association. The brotherhood will take over contracts formerly in effect between those unions and the road. The contracts, governing wages, hours and working conditions, will remain unchanged for the present, brotherhood officials said.

Announcement of the agreement was made by L. B. Snedden, the brotherhood's Eastern vice-president. It was effected October 17 by an exchange of letters between the brotherhood and general managers for the five regions of the railroad.

Ground work for the merger of the unions was laid eight months ago when the brotherhood asked consolidation, claiming it represented a majority of clerical employees on the road. The Association of Clerical Employees disputed the claim but agreed to a vote conducted by the Mediation Board. In September, while the vote was in progress, the association agreed to the merger and the voting was halted.

Over 60 Per Cent of R. C. C. Loans Repaid

More than 60 per cent of the loans made by the Railroad Credit Corporation to various railroads to enable them to meet their fixed charges have been repaid, E. G. Buckland, president of the corporation, told the board of directors at its annual meeting in New York on October 22. Loans to railroad companies outstanding as of September 30, Mr. Buckland said, totaled $28,382,168 compared with $73,691,368 originally loaned. During the fiscal year ended on September 30, 1936, outstanding loans have been reduced by $21,388,457.

Twenty-one of the 53 original borrowing railroads have made final settlements with the Railroad Credit Corporation. Of the present loan balance, $23,208,034 represents notes of 17 borrowing carriers in receivership or trusteeship, while the remaining $5,174,134 represents notes of 15 solvent carriers. As a result of repayments of loans by various railroads, the Railroad Credit Corporation has made liquidating distributions to participating carriers totaling $47,801,902, or 65 per cent of the net contributions. Of that amount, $23,235,442 has been in cash and $24,566,460 in credits. In the fiscal year just ended, 13 liquidating distributions were made to carriers participating in the Marshalling and Distributing Plan, 1931, aggregating $22,045,929, or 30 per cent of the fund. Of this amount, $11,570,156 was returned in cash and $10,475,773 credited on obligations to the Corporation. A further distribution of $734,966, or 1 per cent, will be made to participating carriers on October 31. Of that amount, $379,605 will be in cash and $355,361 in credits. The president and directors of the corporation were re-elected.

The Chicago Foremen Elect Officers

The annual meeting of the Car Foremen's Association of Chicago, held Friday, October 16, at the LaSalle Hotel, was devoted primarily to an evening of entertainment under the direction of R. M. McKisson, American Steel Foundries, chairman of the social committee, about 500 members and guests of the association being present to enjoy the festivities. At a brief preliminary business meeting presided over by President C. O. Young, Illinois Central, credit for the unusually favorable condition of the association both as regards membership and finance was given to President Young and to the good work of an active booster committee headed by K. A. Milar, Milar & Company, Chicago.

At the close of the business meeting, the following officers were elected to direct the activities of the association in the coming year: President, J. S. Acworth, supervisor of equipment, General American Tank Car Corporation; First Vice-President, F. A. Shoulty, general car foreman, Chicago, Milwaukee, St. Paul & Pacific; Second Vice-President, P. B. Rogers, car shop superintendent, Atchison, Topeka & Santa Fe; Treasurer, C. J. Nelson, superintendent, The Chicago Car Interchange Bureau; Secretary, George K. Oliver, assistant passenger car foreman, Baltimore & Ohio Chicago Terminal. The board of directors includes W. Snell, C. M. St. P. & P.; F. L. Kartheiser, C. B. & Q.; A. W. Berger, C. & N. W.; J. C. Shreeve, E. J. & E.; C. W. Broo, N. Y. C. & St. L.; G. C. Christy, I. C.; J. S. Acworth, General American Tank Car Corporation; F. R. Callahan, Pullman Company; R. R. Hawk, Wilson Car Lines; A. E. Smith, Union Tank Car Corporation; K. A. Milar, Milar & Company, and W. J. Demmert, Griffin Wheel Company.

Roads Bureau Summarizes Work in Last Fiscal Year

Road work administered by the Bureau of Public Roads during the fiscal year ending June 30, 1936, considerably exceeded that of any previous year in point of projects approved, contracts awarded, and work placed under construction. Contracts were awarded for 22,300 miles at a cost of $489,000,000 of which $393,000,000 was to be supplied by the federal government. Work placed under construction totaled 21,800 miles at a total cost of $454,000,000 of which the cost to the federal government was $369,000,000. The 17,300 miles of road completed were built at a total cost of $280,000,000 including $241,000,000 in federal funds.

During the fiscal year, 300 railroad grade crossings were eliminated, 10 elimination structures were reconstructed and protective devices were installed at 185 crossings. At the end of the year 1,240 eliminations were under contract—most of them under construction—and 168 elimination structures were under contract for reconstruction.

The combined highway and grade crossing work furnished direct employment of 1,673,935 man-months to an average of 139,500 men. The indirect employment in production and transportation of materials brought the average full-time employment to 362,000 men.

The year's work included improvement of the federal-aid system, extension of the system into and through cities, and construction of secondary and feeder roads. This work was supported by remaining portions of the public works authorizations of 1933 and 1934, by an authorization of $125,000,000 as regular federal-aid to the states and by allocations of $200,000,000 for highways and $200,000,000 for grade crossing work made under the emergency relief appropriation act of 1935.

Highways are now being designed for the safe accommodation of vehicles moving at speeds of 60 miles per hour, according to bureau officials. This applies both on new highways and in the further improvement of the large mileage of highways being improved by successive stages.

Spotting Service Compensation

Six manufacturing companies with plants in the vicinity of Pittsburgh sought to enjoin orders of the Interstate Commerce Commission requiring railroads to discontinue payment of allowances to plaintiffs for the performance of terminal spotting charges. The cases were consolidated and heard before a district judge for western Pennsylvania and two circuit judges. The railroads concerned were, in five of the cases the Pennsylvania, and in one case the Missouri Pacific and the St. Louis-San Francisco.

The court held, American Sheet & Tin Plate Co. v. United States, 15 F. Supp. 711, that spotting service is transportation within the definition of that word in the Interstate Commerce Act and therefore a common-carrier service up to certain limits. It includes the placement of cars in position accessible to the consignors and consignees, respectively, for loading and unloading. Such services are included in the established rates, unless in express terms the published tariffs otherwise provide. They are common-carrier services which the carriers are bound to perform.

But, the court held, "the carriers may either do this 'spotting service' themselves or engage others, including shippers and owners of property transported, to do it, and pay therefor a reasonable compensation out of their freight rates, without violating the law. But this will not include special or particular 'spotting service' such as described in N. Y. Central & H. R. v. General Electric Co. 219 N.Y. 227, 114 N.E. 115, 1 A.L.R. 1417, over an intricate system of trackage when the railroad is not permitted to enter to do any 'spotting service' at all."

"Typical of the circumstances which relieve the carrier from the duty of spotting cars may be noted: (a) Where an industry refuses to permit the railroad to

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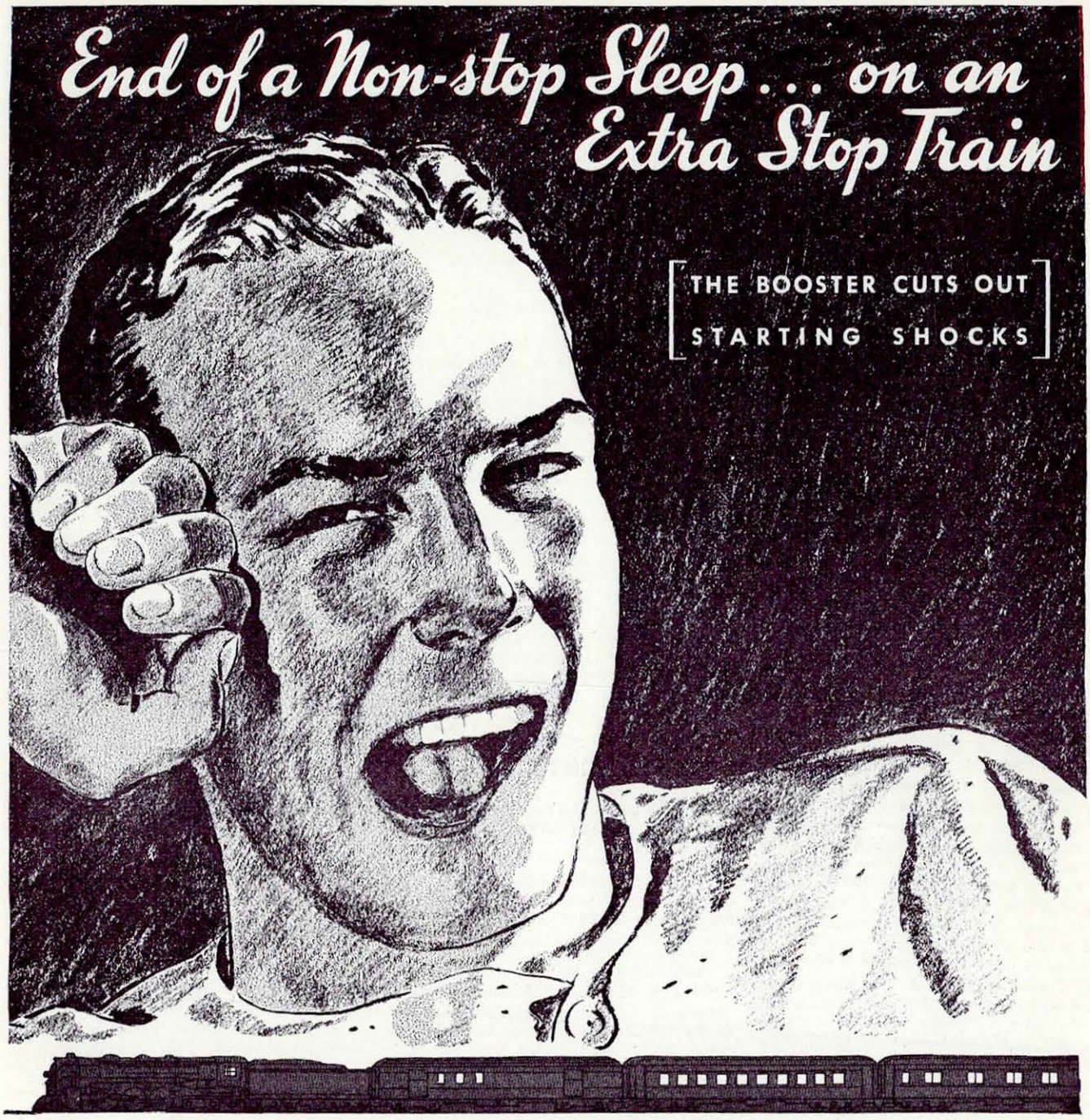
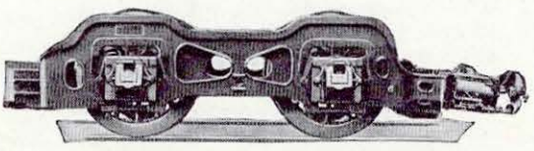
End of a Non-stop Sleep . . . on an Extra Stop Train



"Gosh what a good night's sleep!" » » » When he rode this train before, he *knew* each time it started—expected the same tough ride again. » » » But now the locomotive is Booster equipped—it started so smoothly he never knew it—he slept so well he's refreshed and ready for a day's work. » » » He found out why the train rode so comfortably—and now is a booster for Booster-hauled trains.



FRANKLIN RAILWAY SUPPLY CO., INC.

NEW YORK
CHICAGO
MONTREAL

enter upon the private industrial tracks; (b) where the physical condition and layout of the private industrial tracks will not accommodate the carrier's locomotives without hazard or excessive delay; (c) where the industry occupies large areas with many scattered plants, connected by an intricate system of industrial tracks and used chiefly as industrial facilities."

The court found in the present case no circumstances which would relieve the carriers involved from the duty of spotting the cars as a part of the transportation imposed upon them by law; and that the spotting service was covered by the railroads' published tariffs. When the plaintiffs did this service themselves they were held entitled to the compensation provided for in the published freight tariffs.

The court also held that the commission was without power to prohibit entirely allowances for doing spotting service, although it could review these allowances and determine whether they were unreasonable, unjustly preferential, unduly discriminatory, or otherwise unlawful. The commission having made no such findings, it was held that the injunction prayed for should issue.

Orders enjoined: 209 I.C.C. 719; 273; 467; 445. 210 I.C.C. 527; 213.

The reasoning of the court and the detailed character of its discussion may be further understood by considering the peculiarities of the carriers' tariff. At each of plaintiffs' plants, terminal switching is performed in connection with the receipt and delivery of freight under the provisions of duly filed and published tariffs. A typical tariff (Pennsylvania R.R.), effective June 1, 1917, applying to coal and coke switched by American Sheet & Tin Plate Company at Vandegrift, says: "In all carload revenue shipments, destined to or coming from the plant of the American Sheet & Tin Plate Company, the American Sheet & Tin Plate Company performs the terminal switching service for account of the Pennsylvania R.R. Co. * * * The American Sheet & Tin Plate Company will be allowed for such service, out of the current Vandegrift rate, the actual cost of service performed, as specified in monthly bills * * * but not exceeding $1.10 per car. This, it will be seen, virtually extends the tariff to cover movements of cars on consignee's rails."

The plaintiffs contended that the switching service was a transportation service the railroads were required by law to perform, and if plaintiffs performed it they were entitled to compensation. The commission contended that this service was not transportation service, which ends when the railroads deliver the car at the interchange track, and so the service was a device to make an unlawful rebate to shippers. The commission contended the line-haul tariff rate is for delivery of the freight car only at the interchange track, and that the railroad cannot be called upon either to spot freight cars at warehouse platforms or to pay the shipper for doing what is exclusively his own work. In other words, that the tariff above quoted from is unlawful.

The question to be decided, said the court, is whether the switching done by the plaintiffs within their own plants is work that the railroads are required to do as a part of transportation. * * * "There appears to be no exact formula that can be applied in answering this question."

Equipment and Supplies

LOCOMOTIVES

THE CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC is inquiring for thirty 4-8-4 type freight locomotives, one Hiawatha type locomotive and seven locomotive boosters. The freight locomotives, which will have a traction effort of 70,000 lb., will necessitate an expenditure of $650,000 for the replacement of turntables, the enlargement of enginehouse stalls and the strengthening of bridges in the territory where they are to operate. The passenger locomotive will be the same type as the three now in service on the Hiawatha. This program for new motive power is in addition to the car building program recently put under way in the road's Milwaukee, Wis., shops, where 27 of a total of 37 passenger cars have been built, and 1,000 automobile and 500 fifty-ton gondola cars are under construction.

FREIGHT CARS

THE WESTERN PACIFIC is inquiring for 50 flat cars and 100 ballast cars, all of 50 tons' capacity.

THE ST. LOUIS SOUTHWESTERN has ordered 50 steel underframes for flat cars from the American Car & Foundry Company.

THE UNITED STATES NAVY DEPARTMENT, BUREAU OF SUPPLIES & ACCOUNTS, Washington, D. C., will receive bids October 27, for two steel flat cars of 70 tons' capacity.

THE KENNECOTT COPPER CORPORATION has ordered 250 ore cars of 100 tons' capacity from the Pressed Steel Car Company. These cars will be constructed of a copper alloy, high tensile steel and are for use in mining operations in Utah. Inquiry for this equipment was reported in the *Railway Age* of October 10.

THE BALTIMORE & OHIO will start work shortly on the rebuilding of 1,000 box cars, in its car shops at Cumberland, Md., Keyser, W. Va., DuBois, Pa., Chillicothe, O., and Washington, Ind. The work will require the re-employment of 550 carmen. When completed, the cars will be of the all-steel type, with the covered-wagon top which the B. & O. developed last year.

IRON & STEEL

THE SOUTHERN has ordered 23,000 tons of rails from the Tennessee Coal, Iron & Railroad Company.

Supply Trade

W. L. Keady, vice-president in charge of operations of the **United States Gypsum Company,** has been appointed vice-president in charge of sales, and **L. H. Atkinson,** assistant to the vice-president, has been promoted to general sales manager.

The Tennessee Coal, Iron & Railroad Company, subsidiary of the **United States Steel Corporation,** plans to proceed with a large development program in the Birmingham, Ala., district, according to an address made by Myron C. Taylor, chairman of the board of the United States Steel Corporation at a luncheon meeting in Birmingham on October 15. The improvements will include the construction of two batteries of coke ovens, a blooming mill, a continuous 48 in. wide strip mill, two continuous cold rolling mills and a tinning mill.

Charles Gaston, a service engineer in the railroad department of **The Ashton Valve Company,** Boston, Mass., and located at the Chicago office of the company, has been appointed railroad representative, at New York, to succeed Harry O. Fettinger, deceased. Mr. Gaston was born and educated in the vicinity of Louisville, Ky. He served in various capacities as air brake machinist and foreman, also as roundhouse foreman on several railroads. His last railroad service was with the Baltimore & Ohio Chicago Terminal, leaving that company in February, 1923, to take service with The Ashton Valve Company, at its Chicago office, where he remained until his recent appointment. Mr. Gaston invented and patented the quadruplex air brake gage.

John L. Davidson, mechanical engineer of the **Valve Pilot Corporation,** New York, has been appointed vice-president with headquarters at New York; the duties assumed with the new office are in addition to those of mechanical engineer. Mr. Davidson was born on July 1, 1894, at Kingston, Ga. After attending the public schools of Quitman, Ga., he entered the Georgia School of Technology, Atlanta, where he received his degree in mechanical engineering in 1915. For about one year after graduation he served as special apprentice in the munitions plant of the Westinghouse Air Brake Co., Wilmerding, Pa., leaving in the spring of 1916 to become a special apprentice in the locomotive shops of the New York Central, at Elkhart, Ind. During the war he secured leave of absence and served in the ordnance department of the United States Army, first as chief army inspector at the Illinois Steel Co., Gary, Ind., and later in an officer's training school at Erie Proving Ground, Ohio. At the close of the war he resumed his training course with the New York Central and after completing it held a number of positions in the test and motive power departments, finally being appointed special engineer in the

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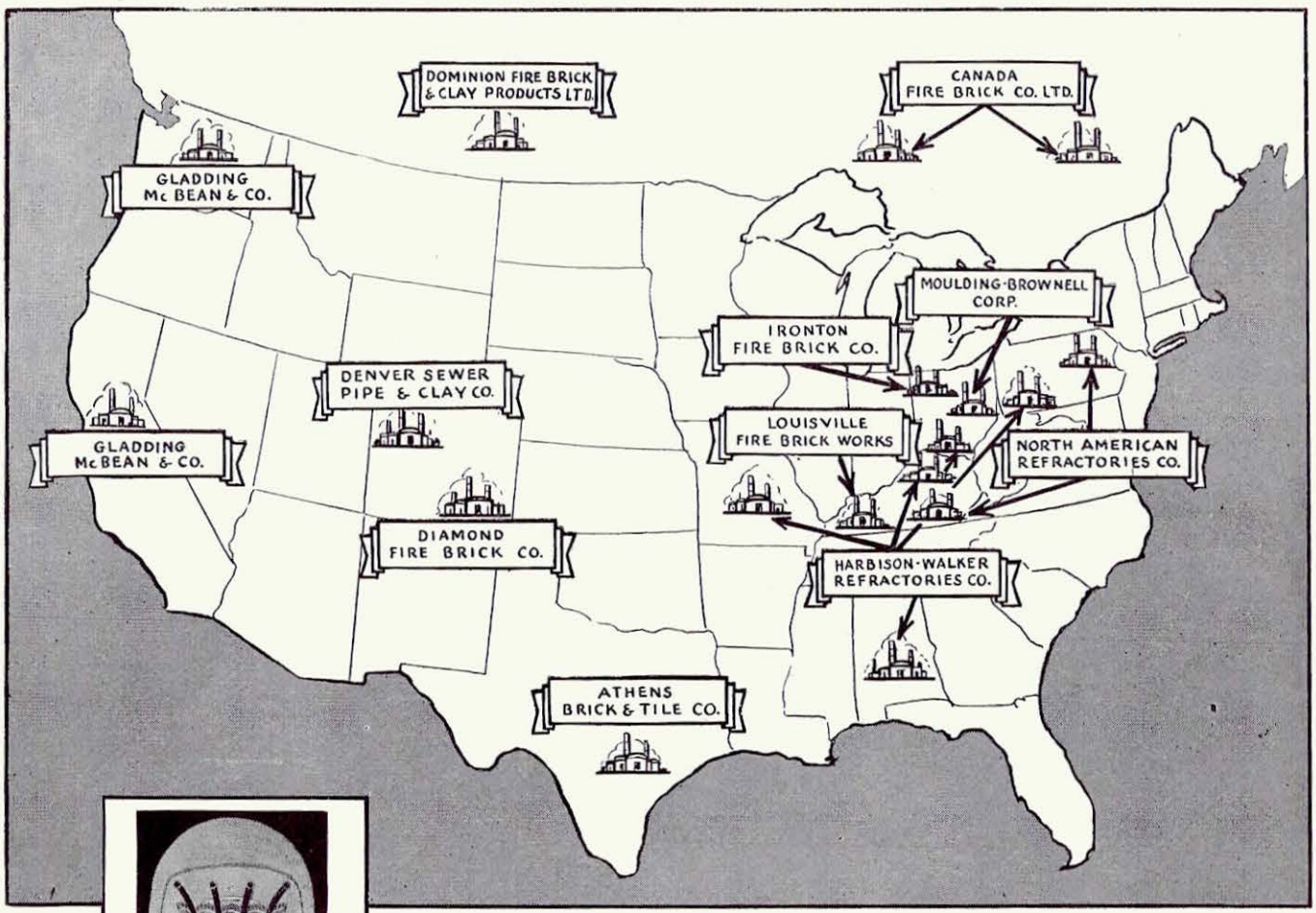
"SECURITY ARCH" SUPPLY
Safeguards Locomotive Service


DOMINION FIRE BRICK & CLAY PRODUCTS LTD.
CANADA FIRE BRICK CO. LTD.
GLADDING Mc BEAN & CO.
MOULDING-BROWNELL CORP.
IRONTON FIRE BRICK CO.
DENVER SEWER PIPE & CLAY CO.
LOUISVILLE FIRE BRICK WORKS
GLADDING McBEAN & CO.
NORTH AMERICAN REFRACTORIES CO.
DIAMOND FIRE BRICK CO.
HARBISON-WALKER REFRACTORIES CO.
ATHENS BRICK & TILE CO.

There's More to
SECURITY ARCHES
Than Just Brick

The ready availability of Security Brick, at many plants conveniently located to serve the railroads, guarantees against needless delay in Arch maintenance.

How carefully the interests of the railroads have been safeguarded is indicated by the supply sources shown on the map above.

AMERICAN ARCH COMPANY
INCORPORATED
Locomotive Combustion Specialists
NEW YORK CHICAGO

office of the superintendent of fuel and locomotive performance, from which position he resigned in 1929 to become mechanical engineer of the Valve Pilot Corporation.

OBITUARY

J. Victor Bell, who retired, due to ill health in 1930 as southwestern sales manager of the American Steel Foundries, Chicago, died on October 8, in Marshall, Tex. He was born in that city on June 11, 1868, and entered the service of the Texas & Pacific in 1886, where he was employed in the car department until 1895, at which time he became associated with the American Steel Foundry Company. He continued in the employ of this company, which later formed a part of the American Steel Foundries, until his retirement, with the exception of a short period in 1903 when he was located at Mexico City, D. F., as manager of the Waters-Pierce Oil Company. During his association with the American Steel Foundries he was in charge of the St. Louis office and in 1926 was appointed southwestern sales manager.

J. Victor Bell

Seth A. Crone, president of the Buffalo Brake Beam Co., died at his home in Montclair, N. J., on October 16. Mr. Crone was born on January 6, 1859, at New Market, Ontario. He entered railway service in 1878 with the Quincy, Missouri & Pacific, now the Quincy, Omaha & Kansas City, since which he was consecutively from March, 1879, to July, 1882, in the car shops of the Missouri Pacific, then to June, 1884, general foreman of the car department of the Texas & St. Louis, now part of the St. Louis Southwestern. He later served as foreman of the Pullman Palace Car Co., until July, 1885, and later to April, 1886, as assistant superintendent of the Mann Boudoir Car Co. From April, 1886, to October, 1887, he was assistant superintendent of the Chicago and Northwestern district of the Wagner Palace Car Co., and then to March, 1888, was superintendent of the same district for the same company. In March, 1888, he was appointed inspector of equipment on the New York Central & Hudson River and from May, 1891, to June 1, 1899, he was superintendent of rolling stock of the same road. In 1900 he was appointed manager of the Spiral Nut Lock Co., and in 1902 Mr. Crone organized the Buffalo Brake Beam Co., and was its president since its formation. During the period 1897 to 1899 Mr. Crone was president of the Master Car Builders Association. At the time of his death he was president and a director of the Buffalo Brake Beam Co., and the Acme Steel & Malleable Iron Works, and a director in the Dominion Foundries & Steel, Ltd., Hamilton, Ontario.

Seth A. Crone

TRADE PUBLICATION

ELESCO EQUIPMENT.—The new Elesco equipped passenger locomotives for the Canadian National Railways are featured in the four page bulletin issued by The Superheater Company, 60 East Forty-second street, New York.

Construction

BALTIMORE & OHIO.—The United States Engineer Office, Zanesville, Ohio, has awarded a contract to the Ferguson & Edmondson Company, Pittsburgh, Pa., for the relocation of about six miles of the line of the B. & O. between East Sparta, Ohio, and Sandyville in the vicinity of the Bolivar reservoir of the Muskingum Conservancy district. The bid of this company was $527,964. This project will involve about 560,000 cu. yd. of excavation, 70,000 cu. yd. of borrow, 350,000 cu. yd. of overhaul (haul over 3,000 ft.), the erection of about 60,000 lb. of structural steel, the furnishing and placing of about 340,000 lb. of steel reinforcement and the placing of 2,000 cu. yd. of Class A concrete.

PENNSYLVANIA.—The New Jersey Board of Public Utility Commissioners has directed that construction work be started by November 15, on the elimination of the grade crossing of this road at Colonia boulevard, in the township of Woodbridge, N. J. The work calls for the construction of an overhead structure to carry Colonia boulevard over the railroad.

Financial

BANGOR & AROOSTOOK.—*Stock.*—This company has applied to the Interstate Commerce Commission for authority to issue 32,820 shares of convertible preferred stock, 34,800 of the shares to be used in redemption of the present outstanding 7 per cent stock, and 3,480 shares to be used to reimburse the treasury for the 10 per cent premium involved in the call for redemption. The company also asked authority to issue 76,560 shares of common stock to be used in conversion of the new preferred stock. The application says the reduction in dividend requirements will permit substantial aid in the acquisition and financing of equipment purchases.

CAMBRIA & INDIANA.—*Notes.*—The Interstate Commerce Commission has authorized this company to issue $400,000 of notes maturing serially from 1937 to 1940 and bearing different rates of interest, averaging 1.86 per cent—the notes to be sold to Drexel & Company at par and the proceeds to be used toward payment of part of the cost of 300 hopper cars.

CHICAGO GREAT WESTERN.—*Reorganization Plan.*—The Interstate Commerce Commission has assigned this company's reorganization plan for hearing at Washington on December 8 before Examiners R. T. Boyden and H. H. Kirby.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Abandonment.*—The trustees of this company have been authorized by the Interstate Commerce Commission to abandon a segment of a branch line between Scotland Junction, S. D., and Tyndall, 11.2 miles. That part of the application which sought authority to abandon another segment of this line from Marion Junction to Freeman, 10 miles, was denied.

FLORIDA EAST COAST.—*Defaulted Equipment Trust Certificates.*—Holders of $1,000,000 of the defaulted series D, 5 per cent equipment trust certificates of this company were to meet at the Bankers Trust Company, New York, on October 23 to discuss the distribution of the sums realized from the sale of the rolling stock secured by these certificates. It is understood that the amount realized from the sale will not exceed $450,000.

LEHIGH VALLEY.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to pledge and repledge as security for short-term notes $11,400,000 of its general consolidated mortgage 5 per cent bonds.

MINNEAPOLIS & ST. LOUIS.—*Stock Suspended.*—The New York Stock Exchange has suspended the common stock of this company from dealings on the Exchange on the ground that it "for all practical purposes must be considered as of no value."

MCCLOUD RIVER.—*Merger of Bus Line.*—Grover L. Swink, assistant chief of the section of finance of the Interstate Commerce Commission's Bureau of Motor Carriers, has recommended in a proposed report that the commission authorize this

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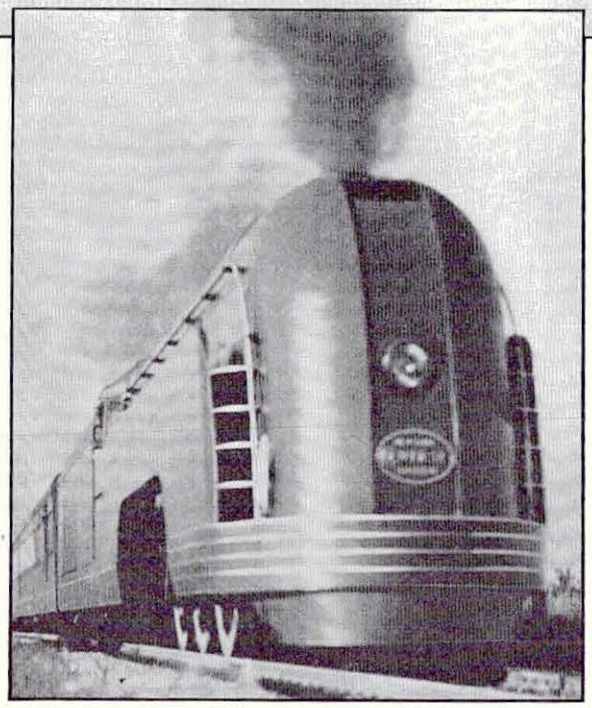
Famous Trains

equipped with an Elesco Feed Water Heater



New York Central's fast streamlined train . . . The Mercury

THE
SUPERHEATER
COMPANY A-1096

Representative of American Throttle Company, Inc.

60 East 42nd Street, New York
Peoples Gas Bldg., Chicago

Canada: The Superheater Company, Limited, Montreal

ELESCO

THE Elesco feed water heater is used on New York Central's new high-speed streamlined train . . . The Mercury.

Correct principles of design, progressively refined to meet demands for ever-increasing efficiency, capacity and reliability, account for the success of Elesco feed water heaters.

More than 5,000 locomotives in the United States and Canada have been equipped with the Elesco feed water heater.

Elesco feed water heaters are SIMPLE — RELIABLE — ECONOMICAL.

Superheaters - Feed Water Heaters - Exhaust Steam Injectors - Superheater Pyrometers - American Throttles
Tangential Steam Dryers

company to merge with the railroad for ownership, management, and operation, the properties of the McCloud Transportation Company, which operates a bus line between Mt. Shasta and McCloud, Calif., 12 miles.

NEW YORK, CHICAGO & ST. LOUIS.—*Equipment Trust Certificates.*—The Reconstruction Finance Corporation has called for bids to be opened on November 5 on $4,624,000 of this company's 4 per cent equipment trust certificates maturing semi-annually from March 1, 1937, to March 1, 1949.

NEW YORK, NEW HAVEN & HARTFORD.—*I.C.C. Investigation.*—The Interstate Commerce Commission has announced a postponement from October 28 to November 30 of the hearing at New York in connection with the investigation of the New Haven's financial affairs, before Chairman Mahaffie and Examiner Mohundrox.

PIEDMONT & NORTHERN.—*Valuation.*—The Interstate Commerce Commission, Division 1, has issued a final valuation report finding the final value for rate-making purposes of the property owned and used for common-carrier purposes to be $10,500,000 as of December 31, 1933.

PITTSBURGH & SUSQUEHANNA.—*Abandonment.*—The receiver of this company has been authorized by the Interstate Commerce Commission to abandon the entire line of railroad extending from Wigton, Pa., to Fernwood, 22 miles.

PRESCOTT & NORTHWESTERN.—*Bonds.*—The Interstate Commerce Commission has authorized this company to extend for three years the maturity date of $75,000 of first mortgage 6 per cent bonds, which matured October 1, and to reduce the rate during the extended period to 5 per cent.

TIOGA.—*Amalgamation.*—The Interstate Commerce Commission has authorized the merger of the Tioga R. R. and the Arnot & Pine Creek into one company, to have the title of the first named; the Tioga to issue $255,000 of common stock in exchange for a like amount of stock of the Arnot & Pine Creek.

WESTERN PACIFIC.—*Trustees' Certificates.*—The Interstate Commerce Commission has authorized the trustees of this company to issue $3,700,000 of trustees' certificates, to be sold at a net interest cost not exceeding 4 per cent and the proceeds used for maintenance and capital expenditures.

Average Prices of Stocks and of Bonds

	Oct. 20	Last week	Last year
Average price of 20 representative railway stocks..	59.33	59.93	35.54
Average price of 20 representative railway bonds..	84.50	84.93	71.92

Dividends Declared

Cincinnati, Sandusky & Cleveland.—Preferred, $1.50, payable November 2 to holders of record October 24.

Kansas City, St. Louis & Chicago.—Preferred, $1.50, payable November 2 to holders of record October 20.

Wheeling & Lake Erie.—4 Per Cent Prior Preferred, $1.00; 5½ Per Cent Initial Preferred, $1.38, both payable November 1 to holders of record October 26.

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

Harry H. Byrer has been appointed general attorney of the Baltimore & Ohio, with headquarters at Baltimore, Md. Mr.

Harry H. Byrer

Byrer was born at Philippi, W. Va., and was educated in the public schools and at West Virginia Wesleyan College, from which he was graduated in 1900. He was admitted to the bar in 1902 and was engaged in the general practice of law at Philippi until 1919, when he entered law partnership at Martinsburg, W. Va. Mr. Byrer was prosecuting attorney for Barbour County, W. Va., and from 1914 to 1922, assistant United States attorney for the Northern district of West Virginia. Since 1922 he has engaged in civil and equity practice, serving also as division counsel of the Baltimore & Ohio at Martinsburg since 1926 and local counsel since 1922.

OPERATING

Miss Velma McPeek has been appointed to the newly-created position of supervisor of passenger train service of the Chicago, Burlington & Quincy, with headquarters at Chicago.

C. A. Hughes, trainmaster on the Wichita division of the Missouri Pacific, with headquarters at Wichita, Kan., has been transferred to the Joplin-White River divisions, with headquarters at Nevada, Mo., to succeed **R. H. Gragg,** who has been transferred to the Wichita division, to replace Mr. Hughes.

M. L. Jennings has been appointed assistant superintendent of the Sacramento division of the Southern Pacific, with headquarters at Dunsmuir, Cal. **J. W. Fitz-Gerald,** district superintendent at Dunsmuir has retired at his own request after 46 years of service with the Southern Pacific, and the position of district superintendent has been abolished.

Earle G. Lee has been appointed superintendent of dining car service of the Chicago, Burlington & Quincy, with headquarters at Chicago, to succeed **H. G. Beasley.** Mr. Lee, who until recently was general manager of the Lake Shore Country club, Glencoe, Ill., formerly served for ten years in the dining car service of the New York Central, and seven years with the Fred Harvey restaurants.

H. L. Nancarrow, who has been appointed superintendent of the Logansport division of the Pennsylvania, with headquarters at Logansport, Ind., as reported in the *Railway Age* of October 3, has been in the service of the Pennsylvania for 16 years. Mr. Nancarrow, who is a graduate of Bucknell university, entered the service of the Pennsylvania on October 7, 1920, as a draftsman in the office of the superintendent of motive power at Philadelphia, Pa. On March 14, 1921, he was made a special apprentice at the Altoona (Pa.) machine shops, and on April 17, 1924, he became inspector of motive power at the same point. On September 1, 1924, he was made a gang foreman on the Cleveland and Pittsburgh division and on February 10, 1926, he was advanced to assistant enginehouse foreman. Mr. Nancarrow was transferred to the Akron division as assistant master mechanic on March 1, 1927, and on May 16, 1928, he was promoted to master mechanic of the Erie and Ashtabula division. On January 1, 1929, he was transferred to the Baltimore division, and thence to the Philadelphia Terminal division, where he was located at the time of his recent appointment as superintendent.

H. L. Nancarrow

TRAFFIC

E. A. Schier has been appointed general traffic manager of the Pittsburgh & West Virginia, with headquarters at Pittsburgh, Pa.

E. Y. Butler, a traffic representative for the Missouri Pacific at San Francisco, Cal., has been appointed to the newly-created position of general agent, freight and passenger departments, at Portland, Ore.

W. C. Sommers, assistant general freight agent for the Pennsylvania, with

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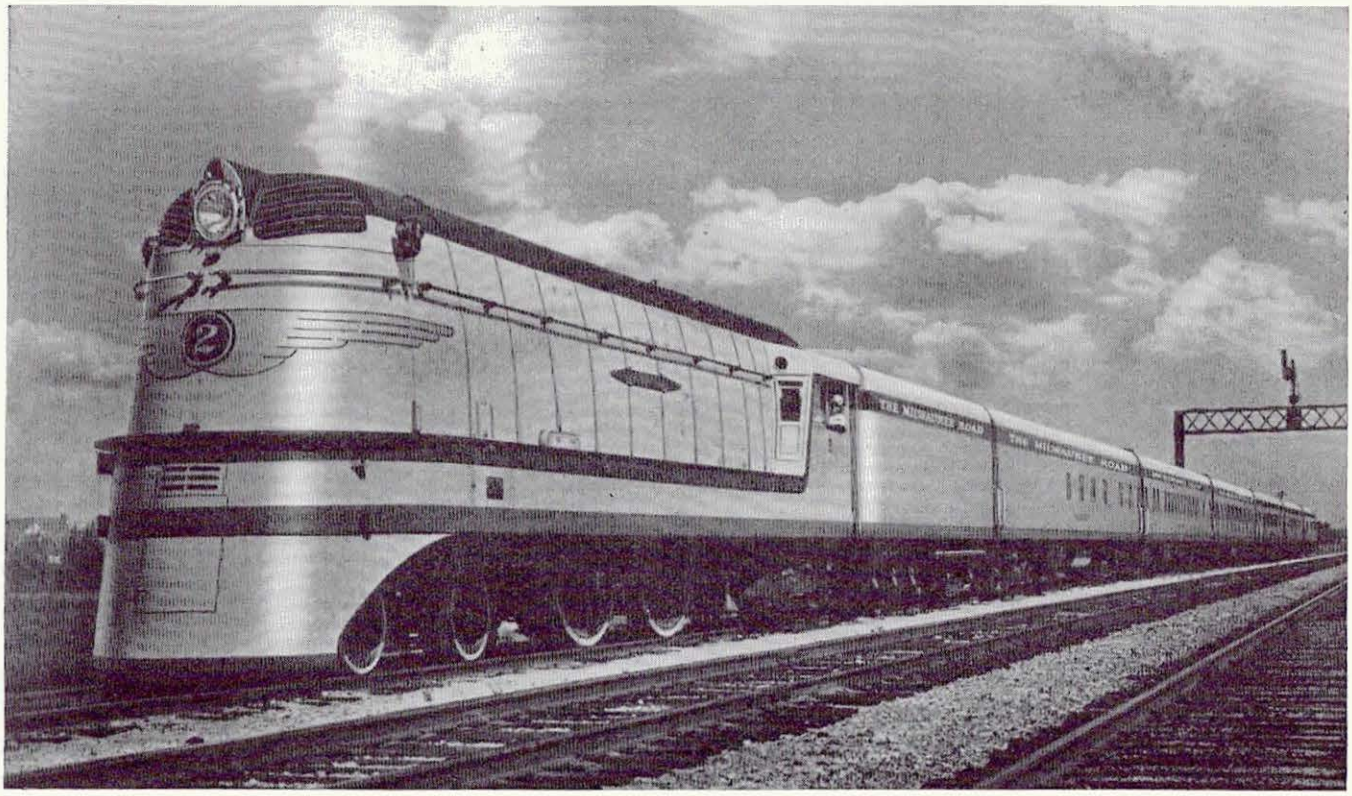


AN AMAZING RECORD

RECORD of paying passengers traveling on the Hiawatha since its inauguration:

May 29, 30, 31, 1935	1,091
June	16,564
July	20,237
August	25,003
September	18,689
October	16,678
November	16,953
December	25,175
January, 1936	23,412
February	18,533
March	17,688
April	18,517
May	17,308
June	24,357
July	29,261
August	34,119
September 1-24	22,535
Total	346,120

One might expect the increase in traffic during June, July, and August, 1935, when the train was new. But compare these months with June, July, and August, 1936, one year later. Truly, an amazing record.

Alco

AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET, NEW YORK CITY

headquarters at Philadelphia, Pa., has been transferred in the same capacity to Pittsburgh, Pa., succeeding **A. E. Johnston. H. H. Young,** New England freight agent, with headquarters at Boston, Mass., has been appointed assistant general freight agent at Philadelphia, succeeding Mr. Sommers. **E. D. Ziegler,** division freight agent on the Philadelphia freight traffic staff, has been promoted to New England freight agent at Boston, succeeding Mr. Young. **C. D. Lindquist,** division freight agent at Wilmington, Del., has been transferred in the same capacity to the Philadelphia staff, succeeding Mr. Ziegler. **H. W. Large,** district freight agent at Washington, D. C., has been appointed division freight agent at Wilmington, succeeding Mr. Lindquist.

Thomas K. Earley, assistant general freight agent of the Denver & Rio Grande Western, who has been appointed general freight agent, as reported in the *Railway Age* of October 10, has been identified with this company for 19 years. He was born on June 18, 1899, at St. Joseph, Mo., and received his higher education at Regis college, Denver, Colo. He entered the service of the D. & R. G. W. in the freight traffic department in August, 1917, and in 1922 he was appointed city freight agent at Chicago. Four years later Mr. Earley was appointed chief clerk in the tariff department at Denver, and on October 1, 1934, he was advanced to assistant general freight agent, with the same headquarters, which position he held until his recent appointment as general freight agent at Denver, which was effective on October 1.

F. W. Nash, general freight agent on the Pennsylvania, with headquarters at Chicago, has been promoted to assistant freight traffic manager with the same headquarters, to succeed **S. C. Matthews,** who has retired, as reported in the *Railway Age* of August 15. **A. E. Johnston,** assistant general freight agent at Pittsburgh, Pa., has been promoted to general

F. W. Nash

freight agent, with headquarters at Chicago, to succeed Mr. Nash. **E. A. Kearnes,** commerce agent at Chicago, has been advanced to assistant general freight agent, with the same headquarters, in which position he will be in charge of commerce work. These appointments became effective on October 16.

Mr. Nash was born near West Liberty, Ohio, in 1874, and received his higher education at Ohio university. He entered railroad service in 1892, as a messenger and assistant yard clerk on the Pennsylvania at Cincinnati. After serving in various clerical and other positions on the Pennsylvania's western lines, he was appointed division freight agent at Columbus, Ohio, in 1918. Three years later he was appointed division freight and passenger agent at Chambersburg, Pa., and in 1922 he was advanced to assistant general freight agent at St. Louis, Mo. Four

A. E. Johnston

years later he was transferred to Chicago, and on April 1, 1933, he was promoted to general freight agent at the same point, which position he held until his appointment as assistant freight traffic manager.

Mr. Johnston was born in 1890, at Cincinnati, Ohio, and entered the service of the Pennsylvania in 1906 as a stenographer in the office of the division freight agent at Cincinnati. Later he held various clerical and secretarial positions in Pittsburgh, St. Louis and Chicago. During the World War he served in the United States Army as first sergeant in the 80th Division Infantry, remaining in the service for nineteen months, ten of which he spent in France. He returned to the Pennsylvania at the close of the war and in 1929 was appointed division freight agent at Altoona, Pa., later serving in the same capacity at Richmond, Ind., and Ft. Wayne. He became assistant general freight agent at Pittsburgh on February 1, 1934.

OBITUARY

Herman H. Ueckert, supervisor of structures for the Southern Pacific Lines in Texas and Louisiana, died on September 29 at the general hospital in Houston, Tex., following a long illness.

Carleton J. Birchfield, general advertising manager of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, died on October 16 at his home at Chicago after an illness of several months. Mr. Birchfield was 52 years of age and had been in the service of the Santa Fe for 32 years.

William B. Dixon, general passenger agent of the Chicago, Milwaukee, St. Paul & Pacific, died on October 16 at the Presbyterian hospital at Chicago. Mr. Dixon had been identified with the Milwaukee for 48 years. He was born on February 5, 1871, at St. Paul, Minn., and entered the service of the Milwaukee in February, 1888, as a stenographer. He then served successively as ticket clerk, chief clerk to the assistant general passenger agent, and traveling passenger agent until June, 1902, when he was appointed northwestern passenger agent. In April, 1907, Mr. Dixon was advanced to assistant general passenger agent at St. Paul, Minn., later being transferred to Chicago. He had been general passenger agent at Chicago since March, 1926.

David Kemper Kellogg, treasurer of the Richmond, Fredericksburg & Potomac, with headquarters at Richmond, Va., died on October 16 of a heart attack at Greenbrier Hotel, White Sulphur Springs, W. Va., where he was attending a meeting of the Treasury division of the Association of American Railroads. Mr. Kellogg was born at Spring Grove, Va., on June 28, 1869, and entered railroad service in March, 1889, in the engineering department of the Norfolk & Western. From 1891 to 1899 he was employed in the auditor's office of the Newport News Shipbuilding & Dry Dock Company and from 1899 to 1904 he served as auditor for the William R. Trigg Company, shipbuilders, at Richmond. Mr. Kellogg served as assistant secretary and assistant treasurer for the Richmond, Fredericksburg & Potomac from 1904 until 1910 and in the latter year he became treasurer and assistant secretary. From 1918 to 1920 he served as federal treasurer, then becoming treasurer.

* * * *

Architect's Drawing of Sun Valley Lodge Which the Union Pacific Is Building Near Ketchum, Idaho, and Which Is To Be Opened For Guests at the Christmas Holidays

Table of Operating Revenues and Expenses appears on next left-hand page

IN 21 cases where interlockings were consolidated, net average annual savings of 22½ per cent were reported according to the A. R. A., Signal Section.

Consolidation of two or more interlockings, by controlling their functions from one location, is desirable from many standpoints, particularly in terminal areas. Traffic can be handled at much less cost and better coordination of movements is achieved. » » » » » »

"Union" engineers are available to cooperate with you in determining the engineering and economic phases of interlocking consolidation projects that your operating conditions might require. » » » » » » »

1881 **Union Switch & Signal Co.** 1936

SWISSVALE, PA.

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States

Compiled from 140 Monthly Reports of Revenues and Expenses Representing 144 Class I Steam Railways

FOR THE MONTH OF AUGUST, 1936 AND 1935

Item	United States		Eastern District		Southern District		Western District	
	1936	1935	1936	1935	1936	1935	1936	1935
Average number of miles operated	236,683	237,831	58,549	58,928	44,881	45,211	133,253	133,692
Revenues:								
Freight	$283,601,766	$235,671,788	$115,163,757	$94,126,211	$54,175,649	$44,456,170	$114,262,360	$97,089,407
Passenger	39,321,105	33,850,373	21,806,579	19,079,886	4,677,143	3,867,011	12,837,383	10,903,476
Mail	7,556,694	7,319,274	2,913,669	2,839,407	1,302,656	1,259,118	3,340,369	3,220,749
Express	4,386,375	3,752,612	1,734,403	1,475,129	674,884	571,022	1,977,088	1,706,461
All other transportation	7,366,030	6,390,824	3,838,132	3,392,060	682,692	582,334	2,845,206	2,416,430
Incidental	7,531,262	6,411,899	3,687,573	3,153,066	867,078	812,345	2,976,611	2,446,488
Joint facility—Cr.	1,072,625	804,943	362,440	244,515	221,307	179,952	488,878	380,476
Joint facility—Dr.	251,038	212,169	64,112	51,641	24,658	17,393	162,268	143,135
Railway operating revenues	350,584,819	293,989,544	149,442,441	124,258,633	62,576,751	51,710,559	138,565,627	118,020,352
Expenses:								
Maintenance of way and structures	41,934,006	39,113,014	15,603,245	14,875,833	7,017,993	6,526,620	19,312,768	17,710,561
Maintenance of equipment	65,012,269	55,734,803	28,738,252	23,482,255	12,127,656	10,682,484	24,146,361	21,570,064
Traffic	8,297,786	7,791,336	3,129,722	2,996,501	1,550,750	1,440,568	3,617,314	3,354,267
Transportation	115,595,435	104,179,112	51,744,934	47,028,521	18,445,604	16,709,305	45,404,897	40,441,286
Miscellaneous operations	3,211,760	2,730,814	1,309,906	1,156,590	296,785	251,676	1,605,069	1,322,548
General	12,883,796	12,151,367	5,632,853	5,257,702	2,197,460	2,037,557	5,053,483	4,856,108
Transportation for investment—Cr.	635,578	346,979	75,401	40,636	126,255	35,411	433,922	270,932
Railway operating expenses	246,299,474	221,353,467	106,083,511	94,756,766	41,509,993	37,612,799	98,705,970	88,983,902
Net revenue from railway operations	104,285,345	72,636,077	43,358,930	29,501,867	21,066,758	14,097,760	39,859,657	29,036,450
Railway tax accruals	27,963,417	20,504,973	11,954,026	8,854,397	5,583,213	3,946,571	10,426,178	7,704,005
Railway operating income	76,321,928	52,131,104	31,404,904	20,647,470	15,483,545	10,151,189	29,433,479	21,332,445
Equipment rents—Dr. balance	8,295,454	7,296,459	3,642,969	3,154,846	‡26,166	94,067	4,678,651	4,047,546
Joint facility rent—Dr. balance	3,345,756	2,677,939	1,741,386	1,582,355	427,770	181,808	1,176,600	913,776
Net railway operating income	*64,680,718	†42,156,706	26,020,549	15,910,269	15,081,941	9,875,314	23,578,228	16,371,123
Ratio of expenses to revenues (per cent)	70.25	75.29	70.99	76.26	66.33	72.74	71.23	75.40
Depreciation included in operating expenses	16,126,189	16,126,436	7,074,302	7,179,095	3,191,536	3,222,587	5,860,351	5,724,754
Total maintenance before depreciation	90,820,086	78,721,381	37,267,195	31,178,993	15,954,113	13,986,517	37,598,778	33,555,871
Net railway operating income before depreciation	80,806,907	58,283,142	33,094,851	23,089,364	18,273,477	13,097,901	29,438,579	22,095,877

FOR EIGHT MONTHS ENDED WITH AUGUST, 1936 AND 1935

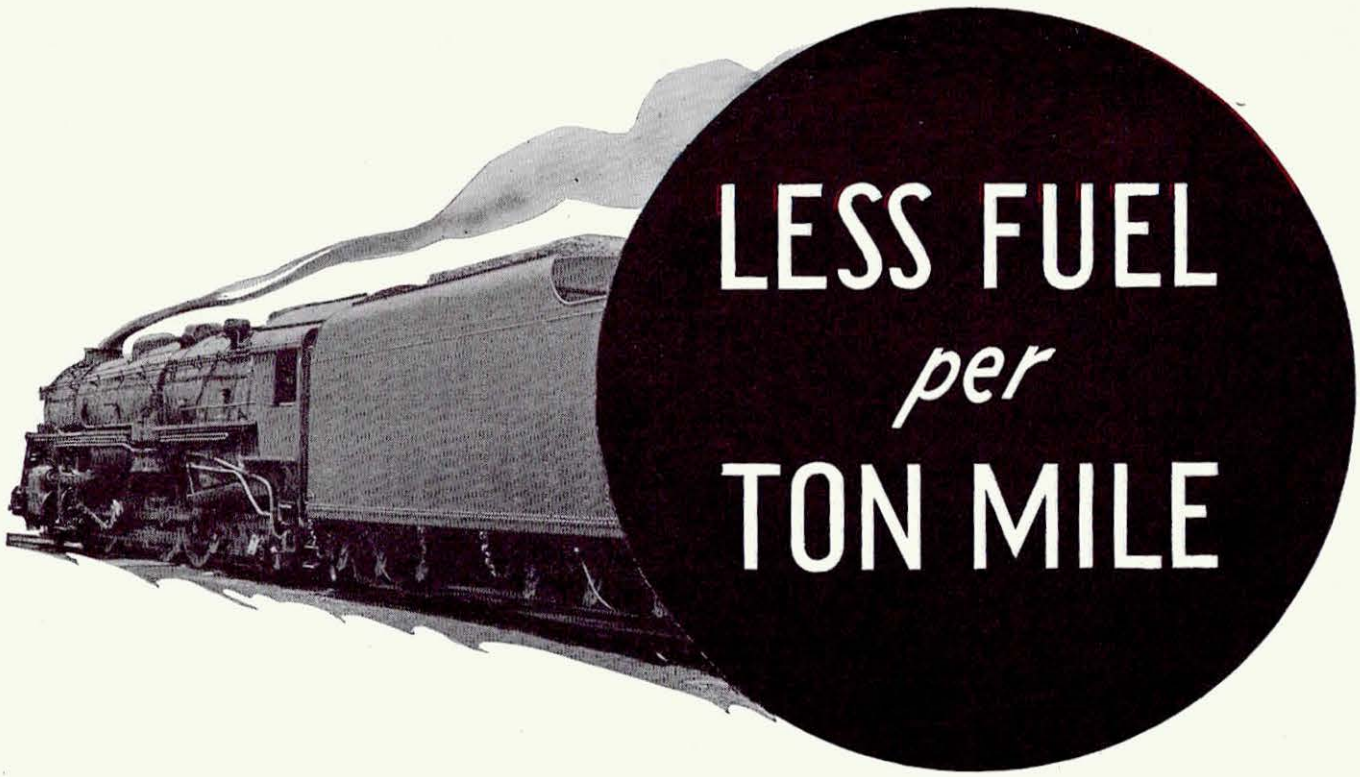
Average number of miles operated	236,936	238,127	58,623	58,994	44,929	45,249	133,384	133,884
Revenues:								
Freight	$2,093,261,772	$1,777,113,051	$897,107,920	$771,945,154	$412,088,478	$352,424,313	$784,065,374	$652,743,584
Passenger	270,876,889	236,228,165	152,397,089	137,271,873	36,860,934	31,132,268	81,618,866	67,824,024
Mail	61,047,529	59,735,818	23,442,330	22,938,262	10,891,125	10,615,300	26,714,074	26,182,256
Express	36,517,379	33,671,679	14,336,876	13,179,579	7,815,573	7,718,410	14,364,930	12,773,690
All other transportation	55,290,307	48,613,419	29,076,509	26,257,986	5,438,607	4,788,417	20,775,191	17,567,016
Incidental	50,761,526	44,702,555	26,694,112	23,474,916	7,134,349	6,650,670	16,933,065	14,576,969
Joint facility—Cr.	7,412,656	6,384,312	2,269,989	1,970,491	1,651,148	1,480,852	3,491,519	2,932,969
Joint facility—Dr.	1,910,411	1,615,968	419,247	440,722	176,024	138,753	1,315,140	1,036,493
Railway operating revenues	2,573,257,647	2,204,833,031	1,144,905,578	996,597,539	481,704,190	414,671,477	946,647,879	793,564,015
Expenses:								
Maintenance of way and structures	301,124,601	260,754,214	115,379,197	99,590,046	53,731,923	49,519,206	132,013,481	111,644,962
Maintenance of equipment	511,102,586	445,184,587	230,241,493	196,645,496	93,440,440	84,775,117	187,420,653	163,763,974
Traffic	66,252,849	62,951,729	24,538,968	23,654,986	12,783,686	12,013,402	28,930,195	27,283,341
Transportation	912,911,149	818,629,653	418,993,799	378,510,197	150,618,323	137,533,712	343,299,027	302,585,744
Miscellaneous operations	23,137,076	19,900,330	10,377,223	9,112,465	2,850,067	2,465,839	9,909,786	8,322,026
General	104,503,163	94,000,545	45,946,831	43,341,966	17,735,510	16,592,858	40,820,822	34,065,721
Transportation for investment—Cr.	2,982,874	2,099,289	309,872	435,445	464,804	265,289	2,208,198	1,398,555
Railway operating expenses	1,916,048,550	1,699,321,769	845,167,639	750,419,711	330,695,145	302,634,845	740,185,766	646,267,213
Net revenue from railway operations	657,209,097	505,511,262	299,737,939	246,177,828	151,009,045	112,036,632	206,462,113	147,296,802
Railway tax accruals	204,542,690	161,711,951	85,991,956	66,860,537	41,917,042	33,368,854	76,633,692	61,482,560
Railway operating income	452,666,407	343,799,311	213,745,983	179,317,291	109,092,003	78,667,778	129,828,421	85,814,242
Equipment rents—Dr. balance	61,960,932	56,386,956	28,713,128	27,017,927	3,079,060	3,168,610	30,168,744	26,200,419
Joint facility rent—Dr. balance	26,007,497	23,559,851	14,155,254	13,399,962	3,199,157	2,392,712	8,653,086	7,767,177
Net railway operating income	*364,697,978	†263,852,504	170,877,601	138,899,402	102,813,786	73,106,456	91,006,591	51,846,646
Ratio of expenses to revenues (per cent)	74.46	77.07	73.82	75.30	68.65	72.98	78.19	81.44
Depreciation included in operating expenses	129,052,591	130,049,910	56,213,854	56,782,139	25,497,131	25,473,281	47,341,606	47,794,490
Total maintenance before depreciation	683,174,596	575,888,891	289,406,836	239,453,403	121,675,232	108,821,042	272,092,528	227,614,446
Net railway operating income before depreciation	493,750,569	393,902,414	227,091,455	195,681,541	128,310,917	98,579,737	138,348,197	99,641,136

* Includes charges to Railway Tax Accruals in the total amount of $35,095,311, itemized as follows: $11,653,878 for tax under the requirements of the Social Security Act of 1935, and $23,441,433 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

† Includes credits to General Expenses in the amount of $6,965,070 on account of reversal of charges previously made for liability under the Railroad Retirement Act of 1934.

‡ Deficit or other reverse items.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.



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Comparison of fuel records has definitely proven that the locomotives equipped with H S G I valve and cylinder wearing parts require less fuel per ton mile.

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Cylinder Packing Rings
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UNIFORM WALL PRESSURE results from specialized manufacturing processes that produce a single-cast ring of even grain texture, free from shrinkage flaws.

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WESTINGHOUSE AIR BRAKE CO.

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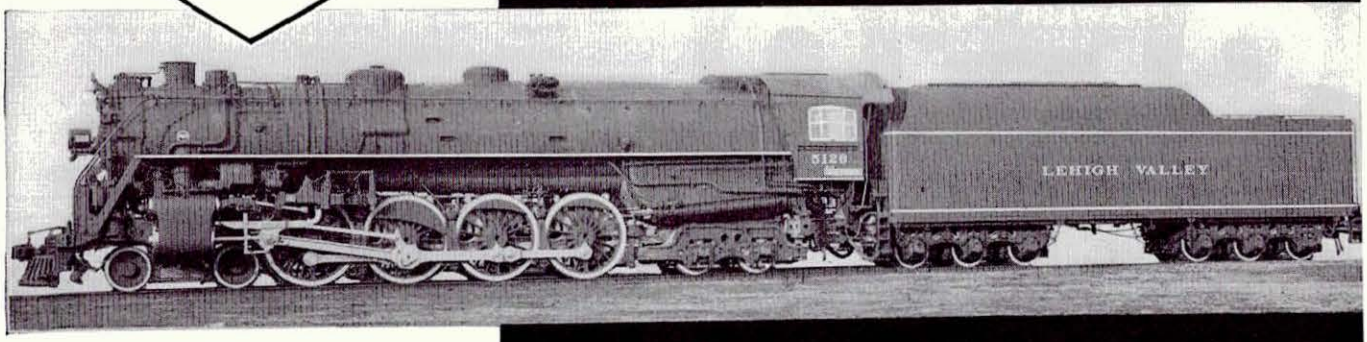
Lehigh Valley
Class T3
Locomotives



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1936—Jan. 4—Feb. 1, 15—March 7, 21—April 4, 18—May 2—June 6, 20, 27—July 4, 18—September 5—October 3

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For Index to Advertisers
See Last White Page

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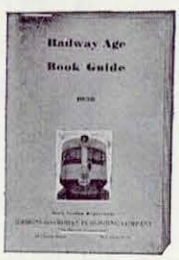
Railway Age Book Guide



Here is a handy reference booklet on railroad books that are of interest to readers of "Railway Age." In it are described practically all of the books published during the past decade that are in print. They are classified under subject headings and arranged in chronological order. A title index in the back facilitates quick reference.

SUBJECT INDEX

Accounting — Administration — Consolidation — Co-ordination — Economics — Finance — General — History — Law — Officers — Personnel — Rates — Regulation — Statistics — Traffic Management — Valuation.

1936. 28 pages, 6 x 9 inches, paper cover.

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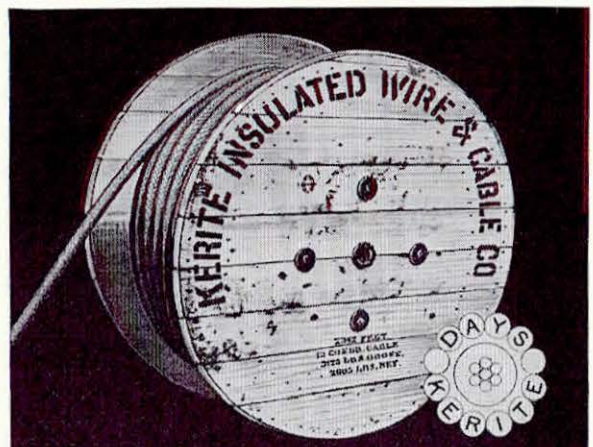

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Old Address .....

New Address .....

Position ..... Company .....

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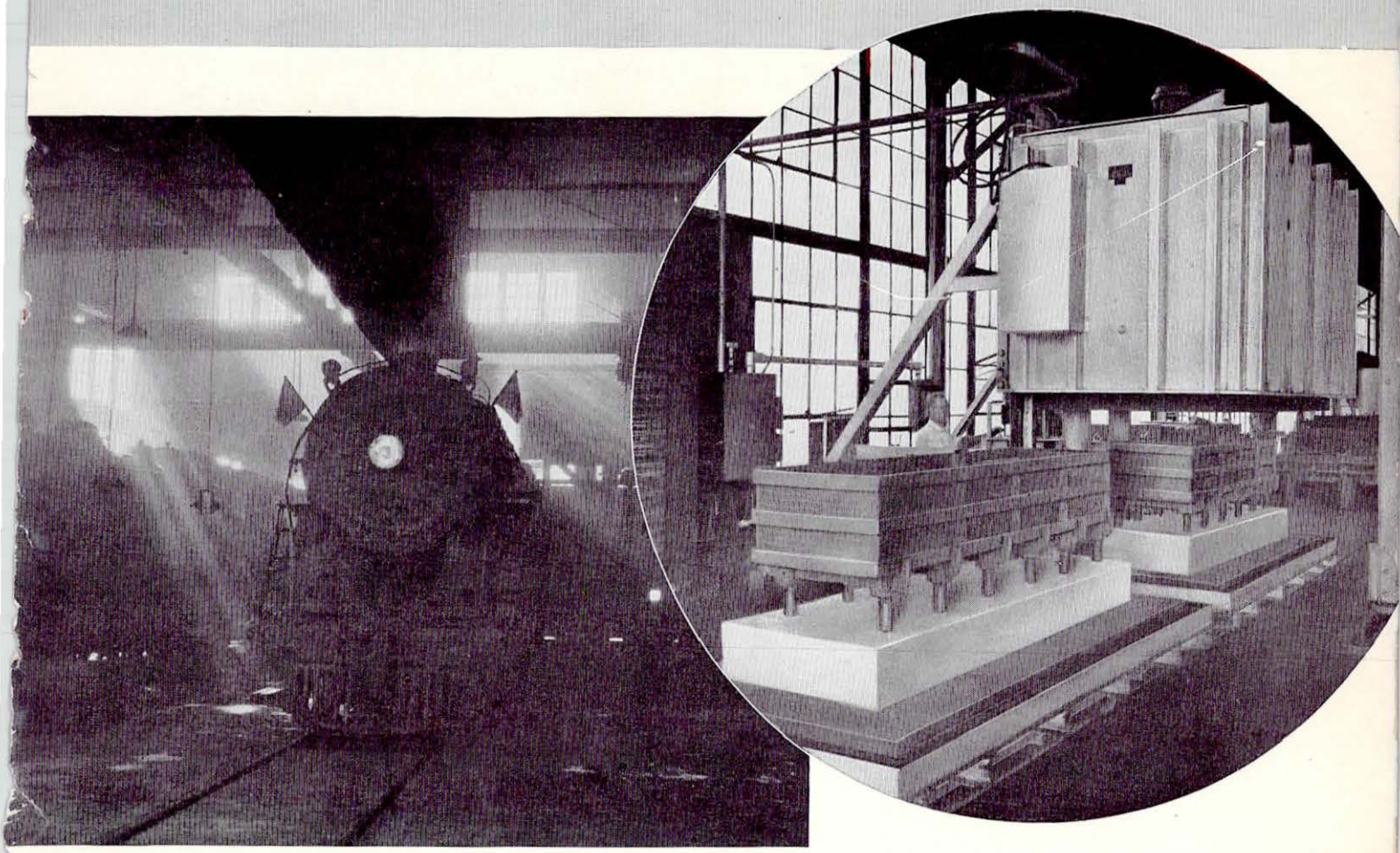

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